GIS Based Salt Industry Information System

(User Manual)

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Chapter 1: Intoduction

1.1 Introduction

For effective monitoring of salt iodization process in Bangladesh and for ensuring the proper iodine level for the general people, a GIS based web enable monitoring system named as **GIS Based Salt Industry Information System** (GSIIS) has been developed. The web based system is developed for monitoring of salt iodization so that all the partners in the process could have access to the system through internet or intranet based on their access authorization. The system is developed using open source software development tools to reduce the cost and licensing obligations. The user interfaces, input/output formats is designed and developed as per requirement and consultation with BSCIC and MI. To develop this web based inventory and mapping system is followed the following steps

- System design
- Database design
- Interface design
- System development

1.2 Software framework design

The software framework development task includes conceptualization of software framework and identification of software elements and users. Series of consultation workshops were also organized to design the initial framework and elements or modules of the monitoring software. The major elements of the software were identified are data input, data browsing, query and report generation and mapping etc. The detail interfaces of the software were described in the following chapter. Further, the user of software were also identified are, BSCIC, BUET, BITAC, INFS, IPHN, UNICEF and Micronutrient Initiative (MI) Bangladesh etc.

1.3 Overall architecture of GSIIS

The system is designed and developed using four-tier architecture that will consist following layers:

- User interface
- Web Server
- Map server and Desktop GIS
- Database

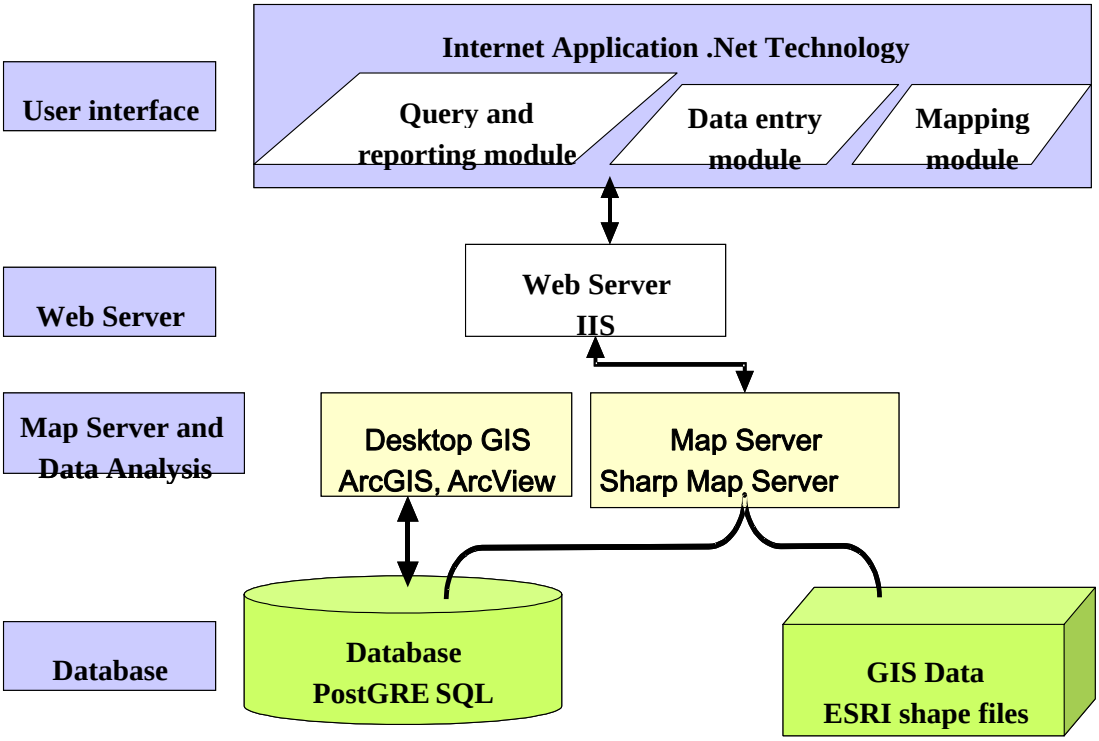


Figure 1.3.1: Overall architecture of GSIIS

1.4 User Interface

The user interface is developed using ASP .NET framework version 2. User-friendly interface of GSIIS is designed for easy access of data from the database server. The users get online access using browsing tool (i.e. internet explorer) to the system and database and able to get required information through different queries. Authorized users can insert and edit data to the system and can also able to download data in different format.

1.4.1 Data entry and editing interface

Using data entry and editing interface, the user can enter the survey and monitoring data. The partners including BITAC, BUET will also have online access (with authentication) to the system so that they can enter monitoring data into the system. There are three level of data are colleted for this system and user interface is designed to enter, update and delete data.

1.4.2 Query and Reporting interface

The query and reporting interface is designed to facilitate analyzing data based on predefine criteria and generate reports online. The predefined query is designed and kept in the database user can get data with by clicking the query name. There is a facility to create a new query and modify an existing query.

1.4.3 Mapping interface

The mapping interface is developed to design and print maps on salt related data. The mapping interface is also facilitated data retrieval based on location based query. The mapping interface is designed based on Map Sharp components.

1.5 Database

The data server contains data, views, triggers and stored-procedure. It executes SQL statements, views, triggers and stored-procedure for data manipulation. The database is designed using open source Database Management System PostGRESQL. A relational database will be designed to store all the survey and monitoring data.

The Spatial data will be stored in the server computer that is outside of the database, the map and the GIS analysis components are accessed the spatial data layers to make spatial operations. The spatial data layers are organized with the structured file formats and naming convention.

1.6 Web Server

The main component for a web-enabled application is the web server. Web server is a sever program that handles the requests from web browsers for data and pages and delivers the requested web pages along with data, maps and other information based on request parameters through internet or intranet. We have developed GSIIS using .Net platform so the web server using Microsoft technology named IIS version-6.

1.6.1 Map components: SharpMap

SharpMap is an open source map server and it is an easy-to-use mapping library for use in web and desktop applications. It provides access to many types of GIS data, enables spatial querying of that data, and renders beautiful maps. The engine is written in C# and based on the .Net 2.0 framework. SharpMap is released under GNU Lesser General Public License. The important features are described below:

- Completely written in C# .NET 2.0
- Embed the engine using any .NET language, including C#, VB.NET and J#
- PostGreSQL/PostGIS support
- ESRI Shapefile support
- HttpHandler for ASP.NET applications
- Support for Points, Linestings, Polygons, MultiPoints, MultiLineStrings and MultiPolygons, * GeometryCollections etc. according to the OpenGIS Simple Features Specification.
- Renders attributes as labels
- Advanced thematic maps using delegates
- Easy extensible with additional dataproviders, layertypes and geometry types

1.7 Technology used

The technology used for development of GSIIS is .Net frame work 2 and open GIS technology. The post GIS technology is very useful for low cost and stable solution. Open GIS is based on open source software. The following technology is used to develop of GSIIS in different components:

- Programming Language: C#
- Frame work: .Net framework 2

- Web components: Asp.Net
- Data access components: NpgSql (.Net data provider for postgreSQL)
- Database: PostgreSQL
- Map service: SharpMap
- Reports framework: Seagate Crystal reports
- Chart component : TeechartPro development license version

1.8 Main Input and output from the system

To monitor the salt iodization chain in the above three steps through the intended GIS based monitoring system the following input data layers will be used:

1.8.1 Input data layers

Primary GIS data layers that will be collected for this project:

1. Gher (Ghona) Location
2. Industry location
3. Wholesale market location
4. BSCIC office location
5. Secondary GIS data
6. Administrative boundary (District/ Thana)
7. River
8. Roads
9. Growth Center
10. From the questionnaire survey the following are input data items:
11. *Common salt production:*
    - General Information: GPS location, Owner name, Location etc
    - Bed Preparation: process of bed preparation, duration, cost
    - Production: production info
    - Quality Control: if maintain BSIC guideline
    - Transprtation: Salt transport by, bed to factory etc.
12. *Salt Industry:*
    - General Information: Factory name, Owner name, Location, and working person etc.
    - SIP Information: Opeating condition, SIP type, Machine parts condition, category of worker etc
    - Production and Processing: capacity, source of salt, salt production, stock position
    - Chemical: crude salt process, Potasium Iodate source, chemical stock position

- Quality control: Any quality control, monitor iodine level, monitor process, SOP follow etc
- Packing and distribution: size of packing, brand names, items printed on packets, salt supplied

13. *Wholeseller:*
    - General Information: name, Location, responder etc.
    - Distribution: salt type distribution, packing, transport, salt packet, source salt
    - Monitoring/Technical: Iodine monitor after collecting, storing, salt distributed by , suggestion etc

1.8.2 Major Outputs

Map based outputs

- SIP information (functional, non-functional), factory location
- Iodized salt production map
- Factory location by salt production (Iodized, non-Iodized, both)
- Zone wise factory map
- Location of common salt production, industry and wholesale market with administrative boundary

Tabuler Output

- Factory General Information: Owner name, man power etc.
- Status of SIP
- Production and Processing of Salt Industry
- Chemical: chemical used
- Quality control
- Packing and distribution
- Suggestions and problems
- Detials status of SIP
- In Packing items should be printed
- Production reports monthwise

1.9 Main user of GSIIS

The main users of the intended system, GSIIS, are as follows:

- Bangladesh Small and Cottage Industries Corporation (BSCIC)
    - CIDD Project
    - BSCIC head office
    - BSCIC district/zone office

- Monitoring officer
- Monitoring Inspector

- Ministry of Industry
- BITAC
- BUET
- INFS
- MicroNutirent Initiative (MI) Bangladesh
- Unicef
- IPHN

1.10 Software components

The main intention was to develop a user-friendly web application to view, query and analyze the data from the GSIIS database. Major components of the GSIIS are as follows:

a. Data Entry Interface

b. Map Viewer

c. Data Analysis

d. Mapping

e. Documents and reports

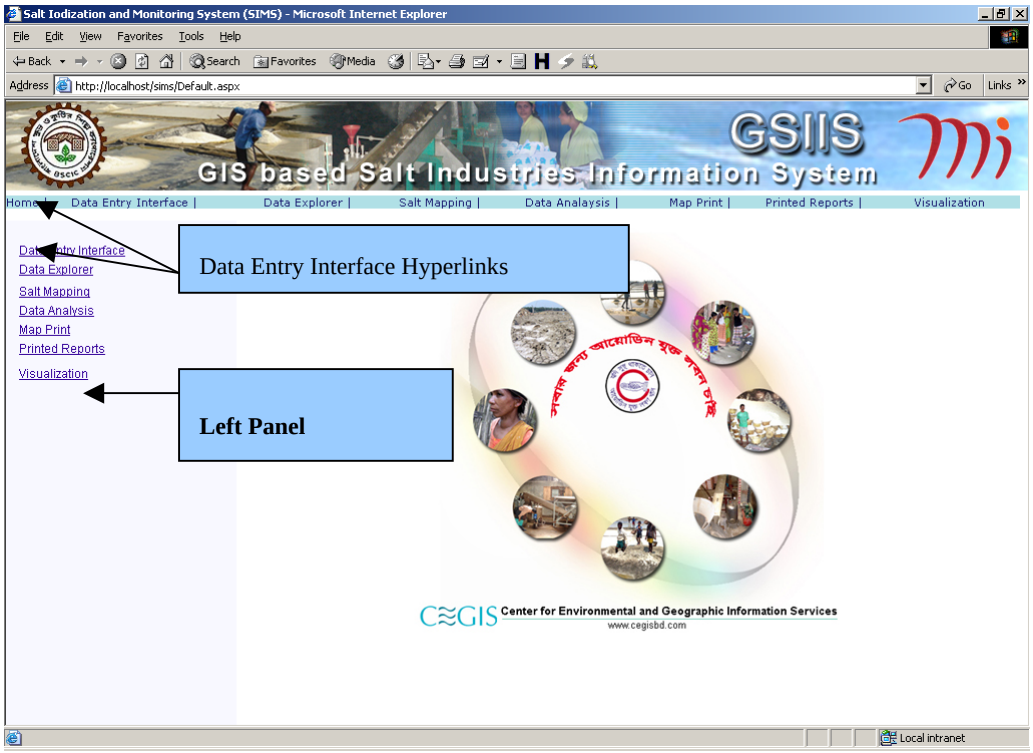
f. Visualization

Salt Iodization and Monitoring System (SIMS) - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://localhost/sims/Default.aspx
GSIIS
GIS based Salt Industries Information System
Home | Data Entry Interface | Data Explorer | Salt Mapping | Data Analaysis | Map Print | Printed Reports | Visualization
Data Entry Interface
Data Explorer
Salt Mapping
Data Analysis
Map Print
Printed Reports
Visualization
CEGIS Center for Environmental and Geographic Information Services
www.cegisbd.com
Local intranet

Figure 1.10.1: Front screen of the GSIIS

Chapter 2: Data Entry Interface

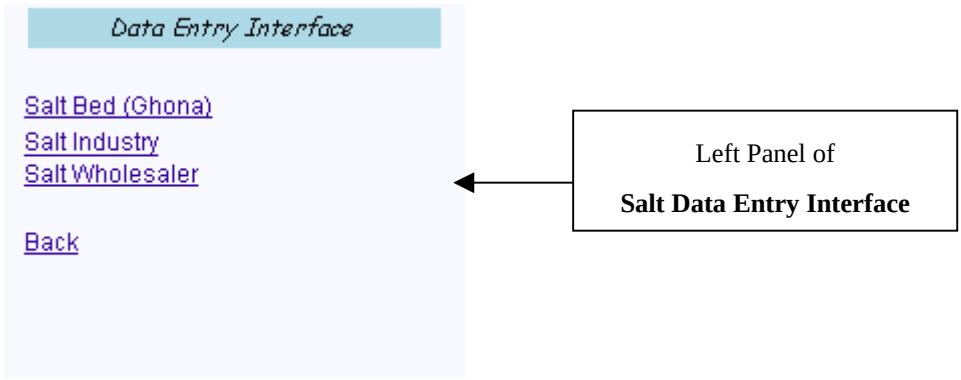
To open data entry interface home click on “Data Entry Interface” hyperlink from the left panel of home page of GSIIS. User can also get the data entry interface by clicking “Data Entry Interface” from top menu bar from any page of the GSIIS.


Salt Iodization and Monitoring System (SIMS) - Microsoft Internet Explorer
GSIIS
GIS based Salt Industries Information System
Home | Data Entry Interface | Data Explorer | Salt Mapping | Data Analaysis | Map Print | Printed Reports | Visualization
Data Entry Interface
Data Explorer
Salt Mapping
Data Analysis
Map Print
Printed Reports
Visualization
Data Entry Interface Hyperlinks
Left Panel
CEGIS Center for Environmental and Geographic Information Services
www.cegisbd.com

Fiqure 2.1: GSIIS Field home page

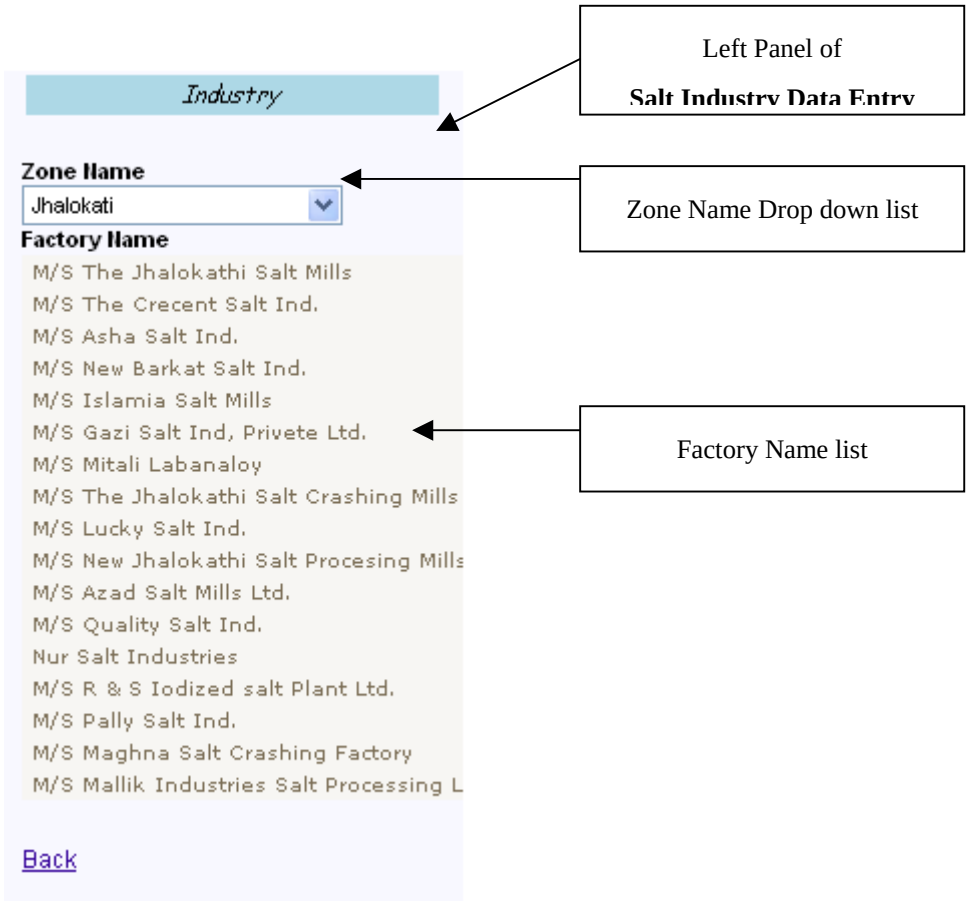
In the data entry interface home page you get four hyperlinks:

1. Salt Bed (Ghona): For data entry of salt bed or ghona
2. Salt Industry: For data entry of salt industry
3. Salt Wholesaler: For data entry of wholesalers
4. Back: For: For go back to the home page of GSIIS



2.1 Salt Industry Data Entry

Click “Salt Industry” hyperlink from the left panel of data entry home page. Choose a zone name from the “Zone name” drop down list of right panel. It generates a list of Salt industries of the selected zone. Select a salt industry name from the “Factory Name” list of right panel. The information of selected factory is visible on the right panel. From here you can add, edit or delete a factory.


Industry
Zone Name
Jhalokati
Factory Name
M/S The Jhalokathi Salt Mills
M/S The Crecent Salt Ind.
M/S Asha Salt Ind.
M/S New Barkat Salt Ind.
M/S Islamia Salt Mills
M/S Gazi Salt Ind, Privete Ltd.
M/S Mitali Labanaloy
M/S The Jhalokathi Salt Crashing Mills
M/S Lucky Salt Ind.
M/S New Jhalokathi Salt Procesing Mills
M/S Azad Salt Mills Ltd.
M/S Quality Salt Ind.
Nur Salt Industries
M/S R & S Iodized salt Plant Ltd.
M/S Pally Salt Ind.
M/S Maghna Salt Crashing Factory
M/S Mallik Industries Salt Processing L
Back
Left Panel of
Salt Industry Data Entry
Zone Name Drop down list
Factory Name list

2.2 How to edit an existing Salt Industry

Click “Edit” button of the right panel. All contents become editable. You can edit or delete any information here.

2.3 How to add a new Salt Industry:

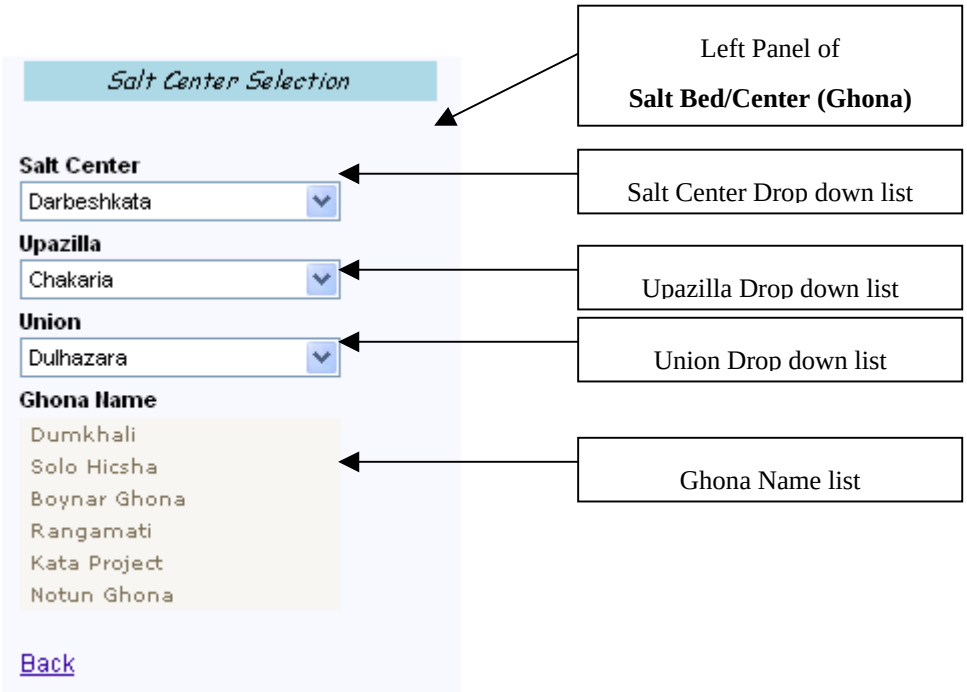
Click “New” button at the bottom of the page give an Unique ID for salt industry and other information then click “Insert” button of the page at the bottom of the page.

2.4 How to delete an existing Salt Industry:

Click “Delete” button at the bottom of the page. Please be sure what are you doing.

2.5 Salt Bed (Ghona):

Click “Salt Bed (Ghona)” hyperlink from the left panel of data entry home page. Select a salt center from “Salt Center” drop down list. Then select an Upazilla from “Upazilla” drop down list box then select a Union from “Union” drop down list box. A list of “Ghona Name” is appeared at the left panel.



2.6 How to edit an existing Salt Bed (Ghona):

Click “Edit” button of the right panel. All contents become editable. You can edit or delete any information here.

2.7 How to add a new Salt Bed (Ghona)

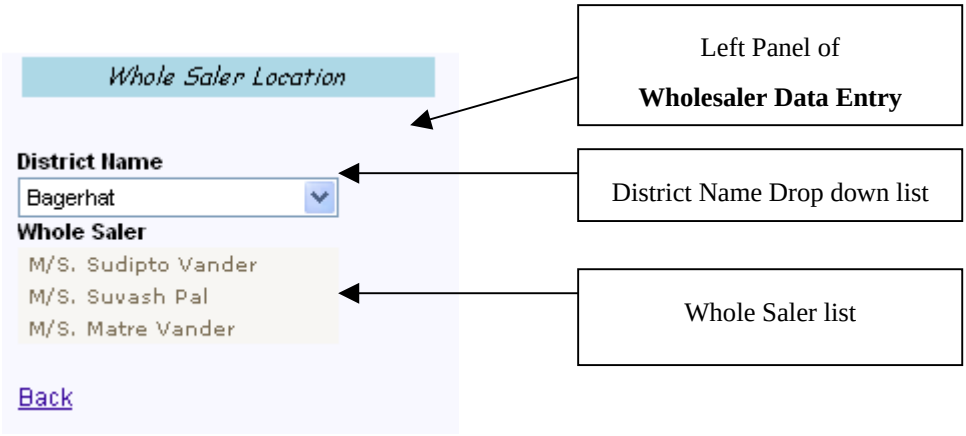
Click “New” button at the bottom of the page give an Unique ID for Salt Bed (Ghona) and other information then click “Insert” button of the page at the bottom of the page.

2.8 How to delete an Existing Salt Bed (Ghona)

Click “Delete” button at the bottom of the page. Please be sure what are you doing.

2.9 Salt Wholesaler

Click “Salt Wholesaler” hyperlink from the left panel of data entry home page. Select a District Name from “District Name” drop down list. A list of “Salt Wholesaler” is appeared at the left panel.



2.10 How to add Salt Wholesaler

Click “New” button at the bottom of the page give an Unique ID for Salt Wholesaler and other information then click “Insert” button of the page at the bottom of the page.

2.11 How to edit an existing Salt Wholesaler

Click “Edit” button of the right panel. All contents become editable. You can edit or delete any information here.

2.12 How to delete an existing Salt Wholesaler

Click “Delete” button at the bottom of the page. Please be sure what are you doing.

Chapter 3: Map Viewer

Map viewer is a nice tool to view, analysis and printing map. The viewer is very user friendly. It has lots of tools which help user to view the map in different query. The key features of the map viewer are,

a. Easy Zooming and Zoom out
b. Identifying tools
c. Map labeling
d. New Layer Adding
e. Well decorated Map legend
f. Map printing Template

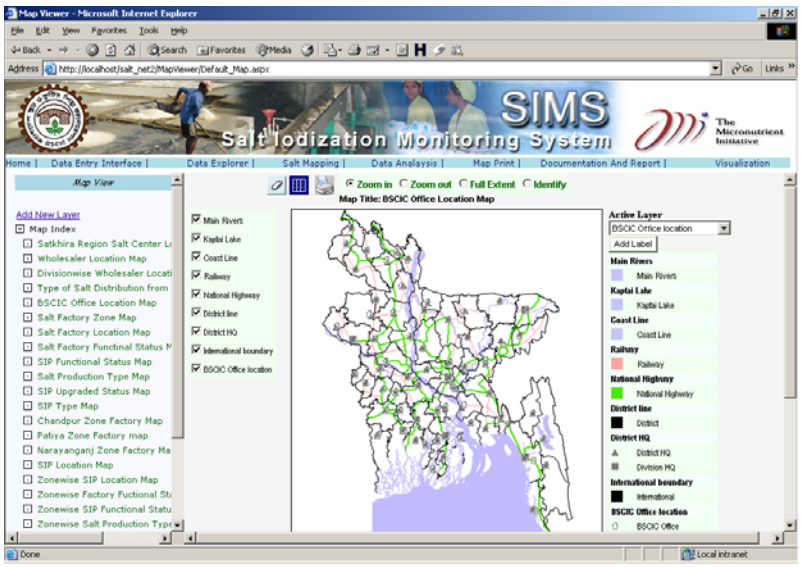


Fig 3.1: GIS Map Viewer

3.1 Display Map very fist Time

a. Click *Salt Maping* form Main Menu
b. Click *Wholesaler Location* from left side Tree navigator.
c. Map Will visible in left contend.

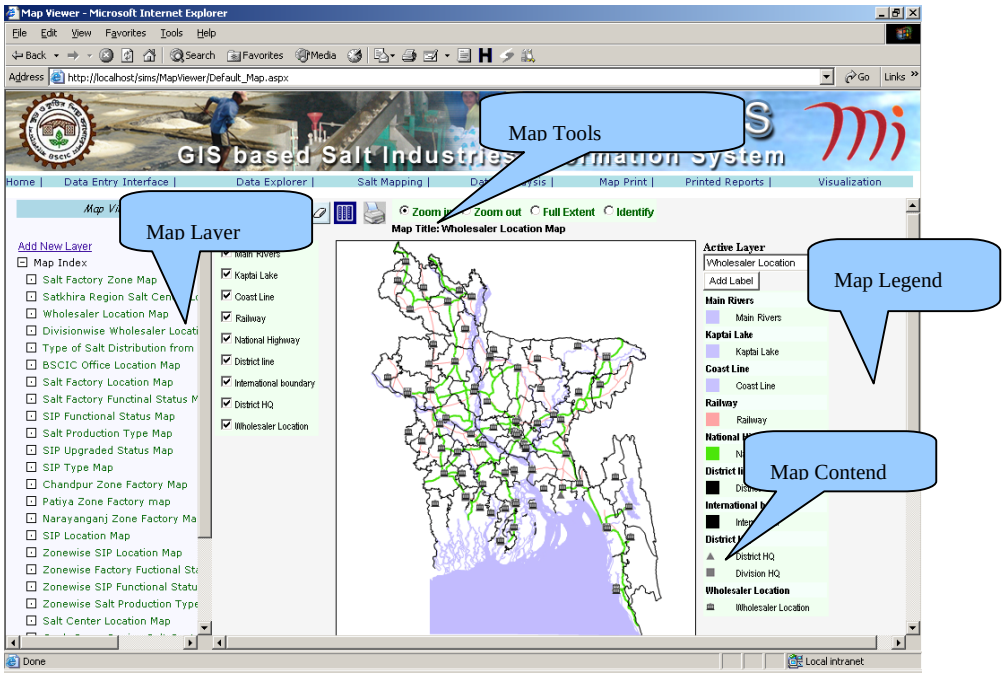


Fig 3.2: Wholesaler Location Map

3.2 Using Map Control Box

Map control box exit in the Top most center position of the map viewer. User get some basic tools here i.e. zooming, zoom out, Full extend, Identity, Erase map, Attribute Table displayer and Map printer.

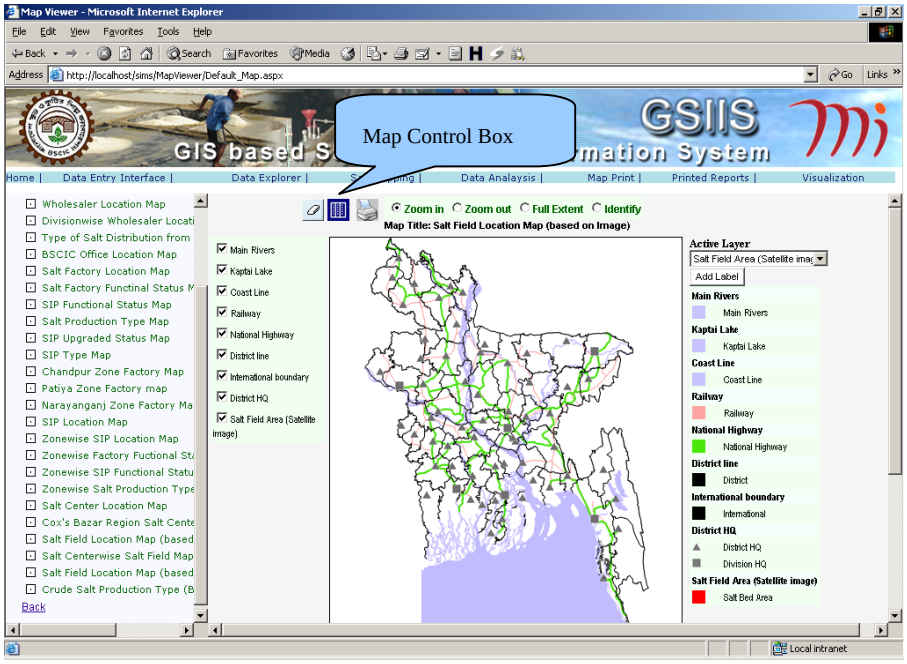
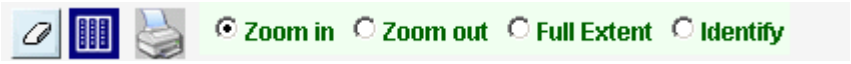


Fig 3.3: Map Control Box

3.2.1 *How to Zoom In:*



a. Set the Option button to **zoom in.**
b. Click in map Display Area.
c. Then user gets Zoom view of the Map. In every Click map will be zoom until the Map control box setting Unchanged.

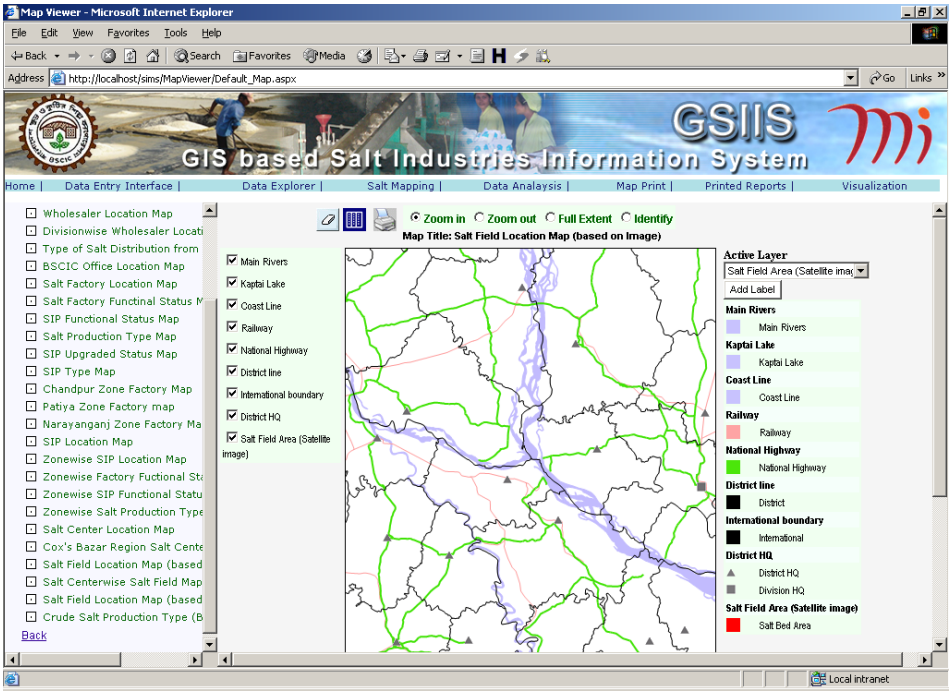
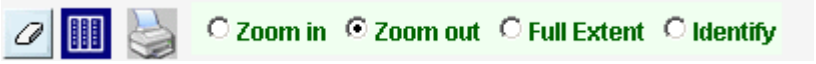


Fig 3.4: Zoom In

3.2.2 *How to Zoom Out:*



a. Set the Option button to **Zoom Out**.
b. Click Map Display Area.
c. Map will be Zoom out in the next view.

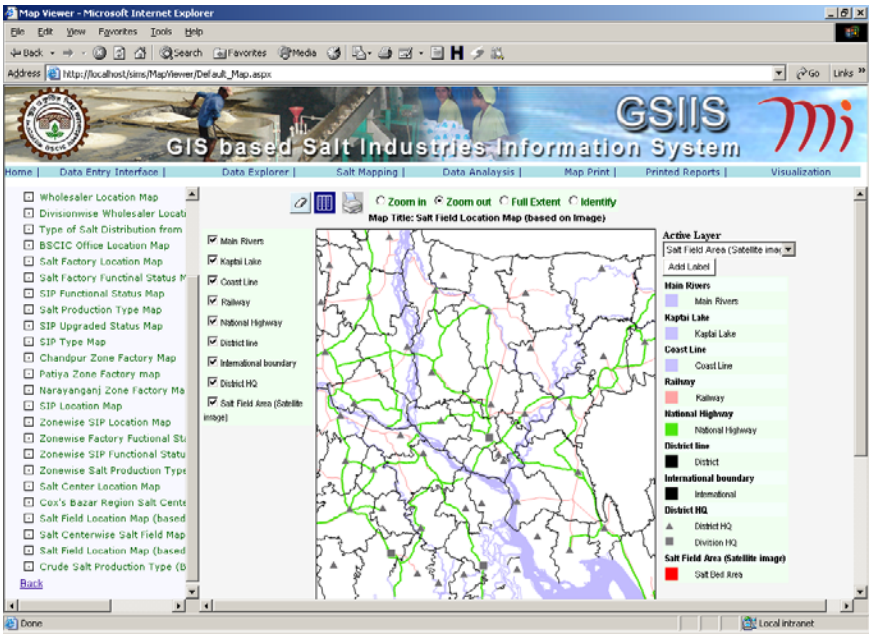
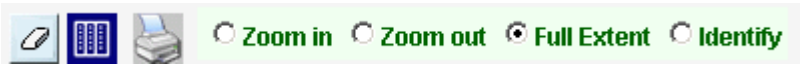


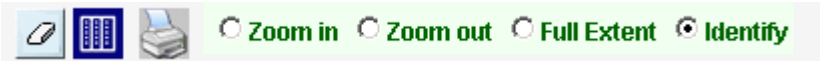
Fig 3.5: Zoom Out

3.2.3 *How to Full Extent:*



a. Set the option button to **Full Extent**.
b. Click in the Map display area.
c. Then Map viewer will set the Map Viewer in the Full Extent Position. If multiple layers in different extent are exit, then the map will be set based on the larger extent.

3.2.4 *Identity:*



a. Set the Option button to Identity
b. Select active Layer form the active layer list.
c. Click into the desire location in the map area.
d. Location identification information will be displayed in the below of the Map area.

User may be viewed multiple information for a specific identity which create confusion to the user. First record is the nearest identity of the user click location. So, first record is the best identity information.

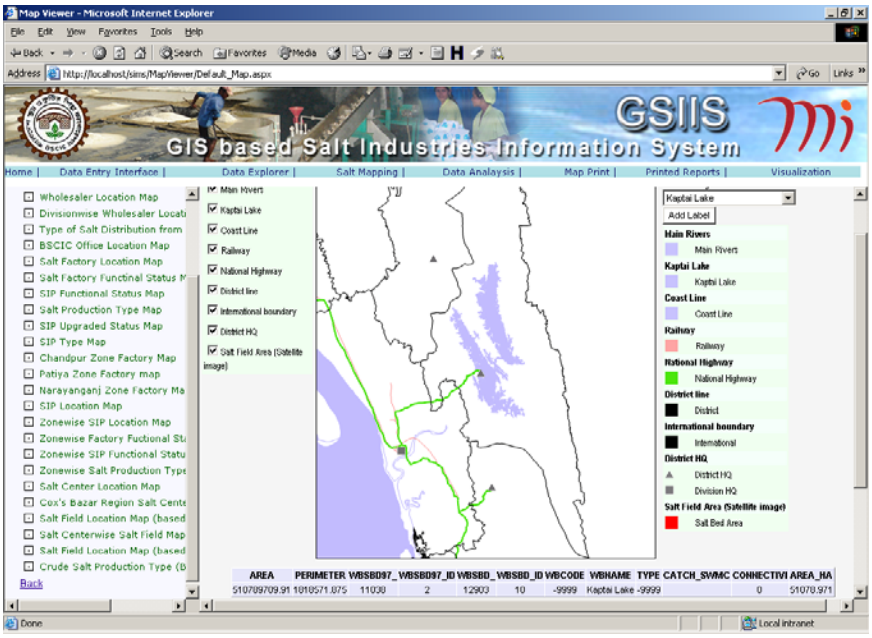
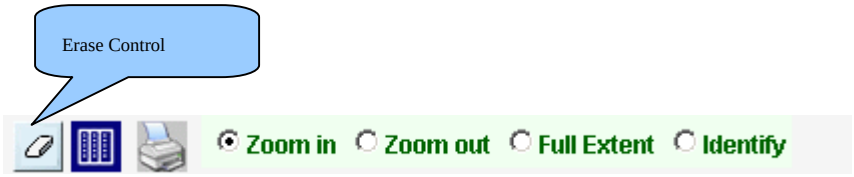

Map Viewer - Microsoft Internet Explorer
GSIIS
GIS based Salt Industries Information System
Home | Data Entry Interface | Data Explorer | Salt Mapping | Data Analysis | Map Print | Printed Reports | Visualization

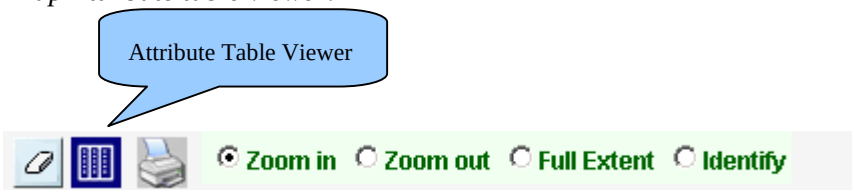
Fig 3.6: Identity

3.2.5 *Reset Map Viewer:*



User can reset whole map control by clicking this button. All the layer and legend will be erasing and user will get fresher one of the map viewer.

3.2.6 *Map Attribute table viewer:*



a. Select desire layer as an active layer from the active layer list.

b. Click Attribute viewer button.

c. Then new Pop will be opened.

b. User will get the attribute table information in tabular data format.

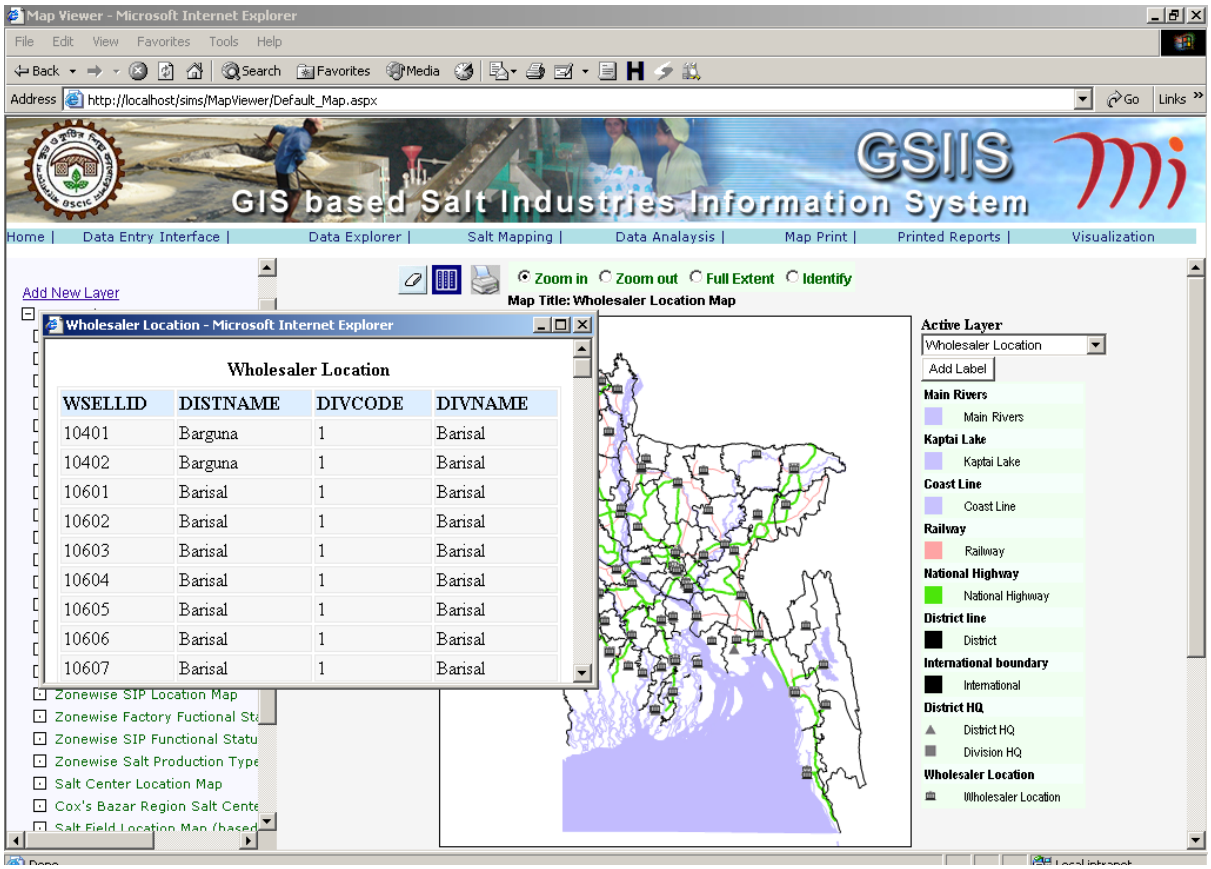


Fig 3.7: Attributes Table Viewer

Notes: Some Web browse can block the popup window. Then user will not get any popup window. User will have done some extra work to view the popup. Bestow user will get the way to unblock the popup for different browser.

Internet Explorer:

Click Tools=>Popup blocker=>Turn off Popup blocker

Mozila Firefox:

a. Click Tools=>Option

b. Select content Tap

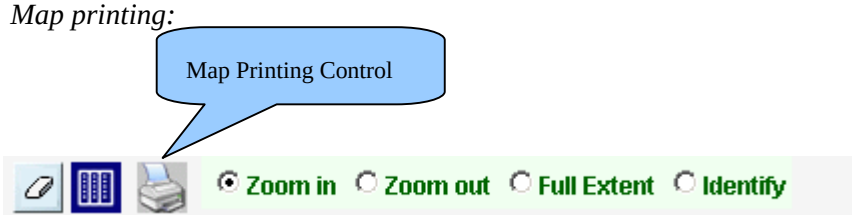
c. Unchecked Popup Blocker

d. Click *Ok* Button

Opera:

a. Click Tools=>preferences
b. Select General Tab(Default Selected)
c. Choose *Open All POP-Ups* from Pop-Ups Combo.
d. Click *Ok* Button

3.2.7 Map printing:



a. Click the Map print button
b. Print preview window will be appeared.

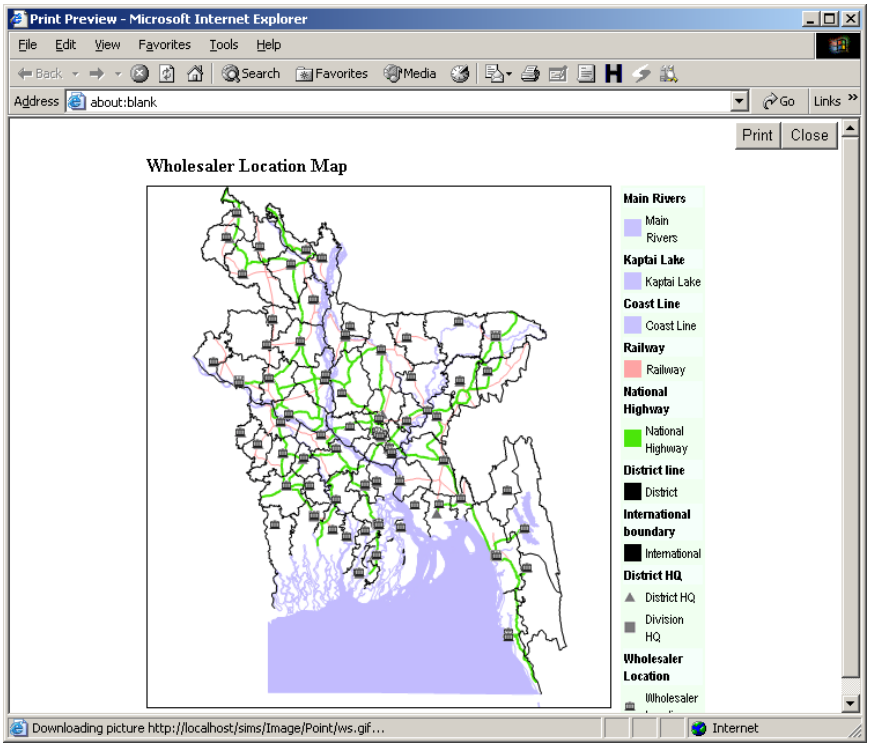


Fig 3.8: Map Print Preview

c. Click print button of the new print preview window.
d. Then printing dialog box will be appeared. Select the Printer and commit the printing process.

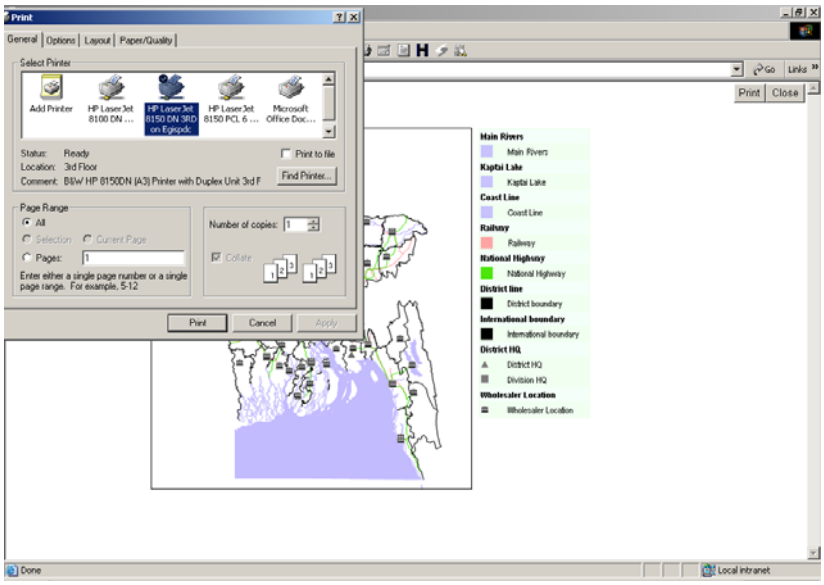


Fig: Map Printing

3.2.8 Map Labeling:

a. Select Active layer. Map will be labeling based on selected active layer.
b. Click **Add Label.**
c. New Label layer will be generated.

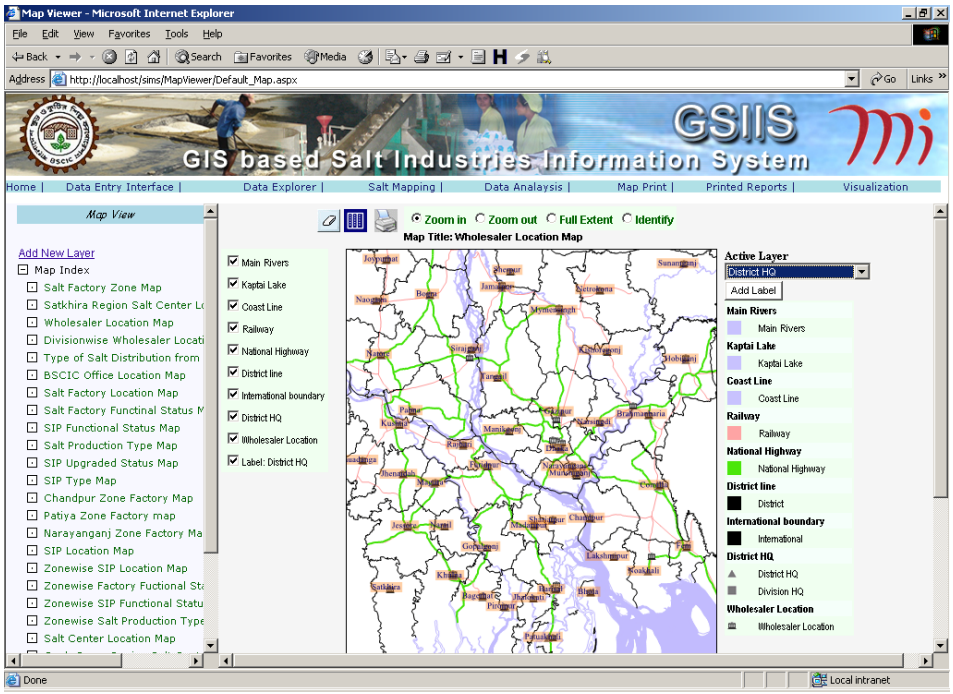


Fig 3.9: Map Labeling

3.3 Map Legend:

User will get map layer in the right corner of the Map viewer. Point layers are identifying by the Icon or image. Line and Polygon are identified by the different color. Legend helps user for better understanding the map.

3.4 Managing Map Layers:

All added layer are arrange in the layer list. Newly added layer are in the below of the list. So, last layer is the topmost layer of the map. If add new layer, it will placed in the below of the list but it determine the top most when the map is rendered.

There is check mark with every layer left end. User can checked or uncheck the layer. Check Mark mean Layer visibility is true that will be rendered and unchecked mean a specific layer visibility is false that will be not rendered.

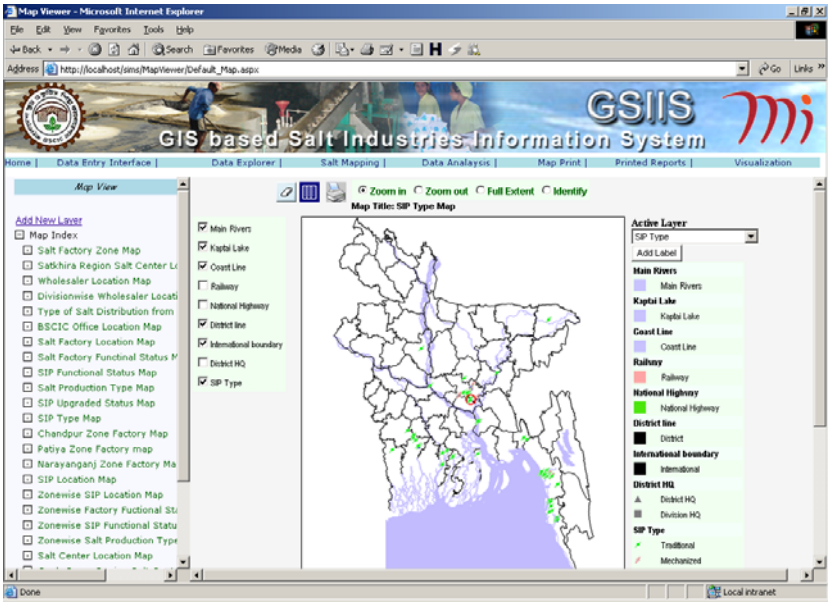


Fig 3.10: Map Layers

3.5 Add New Layer

User can add new layer in the map viewer any time from predefined Layer list. The newly added layer will be top layer and it will be placed below of the layers list. Users have to follow below steps to add new layer,

a. Click *Add New Layer* Link from left side navigator.
b. User will get predefined layer list. Select a layer from the list.
c. New layer will be added the viewer.

Chapter 4: Tabular Data Viewer

Tabular data viewer used view general data, data selection, Chart generation and exporting data. User can generate simple select Query usning Query generation tools. User can generate chart using the generated data and can export data to different format.

4.1 Getting Tabular Data

User can get tabular data following below steps

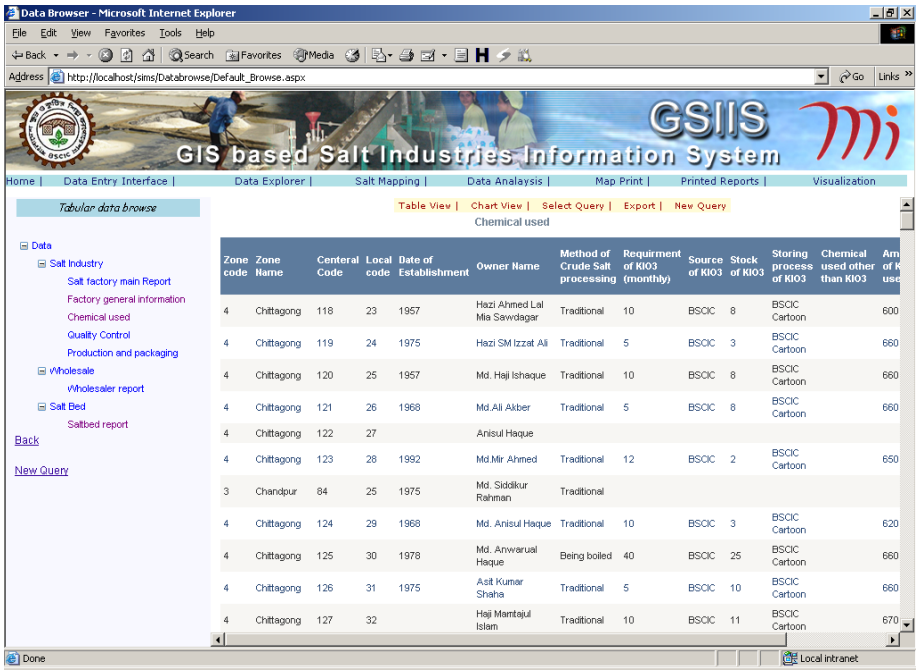
a. Click Data Explorer

b. Click tabular viewer

c. Expand Data>Salt Bed>Salt Bed Report (Sample Data).

d. Click Salt Bed Report

e. Data are displayed in the right display area of the window.


Data Browser - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://localhost/sims/Databrowse/Default_Browse.aspx
GSIIS
GIS based Salt Industries Information System
Home | Data Entry Interface | Data Explorer | Salt Mapping | Data Analaysis | Map Print | Printed Reports | Visualization
Tabular data browse
Data
Salt Industry
Salt factory main Report
Factory general information
Chemical used
Quality Control
Production and packaging
Wholesale
Wholesaler report
Salt Bed
Saltbed report
Back
New Query
Table View | Chart View | Select Query | Export | New Query
Chemical used
Zone code | Zone Name | Centeral Code | Local code | Date of Establishment | Owner Name | Method of Crude Salt processing | Requirment of KIO3 (monthly) | Source of KIO3 | Stock of KIO3 | Storing process of KIO3 | Chemical used other than KIO3
4 Chittagong 118 23 1957 Hazi Ahmed Lal Mia Sawdagar Traditional 10 BSCIC 8 BSCIC Cartoon 600
4 Chittagong 119 24 1975 Hazi SM Izzat Ali Traditional 5 BSCIC 3 BSCIC Cartoon 660
4 Chittagong 120 25 1957 Md. Haji Ishaque Traditional 10 BSCIC 8 BSCIC Cartoon 660
4 Chittagong 121 26 1968 Md.Ali Akber Traditional 5 BSCIC 8 BSCIC Cartoon 660
4 Chittagong 122 27 Anisul Haque
4 Chittagong 123 28 1992 Md.Mir Ahmed Traditional 12 BSCIC 2 BSCIC Cartoon 650
3 Chandpur 84 25 1975 Md. Siddikur Rahman Traditional
4 Chittagong 124 29 1968 Md. Anisul Haque Traditional 10 BSCIC 3 BSCIC Cartoon 620
4 Chittagong 125 30 1978 Md. Anwarual Haque Being boiled 40 BSCIC 25 BSCIC Cartoon 660
4 Chittagong 126 31 1975 Asit Kumar Shaha Traditional 5 BSCIC 10 BSCIC Cartoon 660
4 Chittagong 127 32 Haji Mamtajul Islam Traditional 10 BSCIC 11 BSCIC Cartoon 670
Done
Local intranet

Fiqure 4.1: Tabular Data

4.2 Generating Chart

Chart control interacts with the user and generate chart depenign user query. Using add, remove button user select graph X-axis and Y-Axis Value. X-axis requires only single input. User can select multiple values for Y-axis. Y-axis support only number value i.e interger, double. Multiple selection of Y-axis value generate multiple series in the graph which are idendified by differe color and legent.

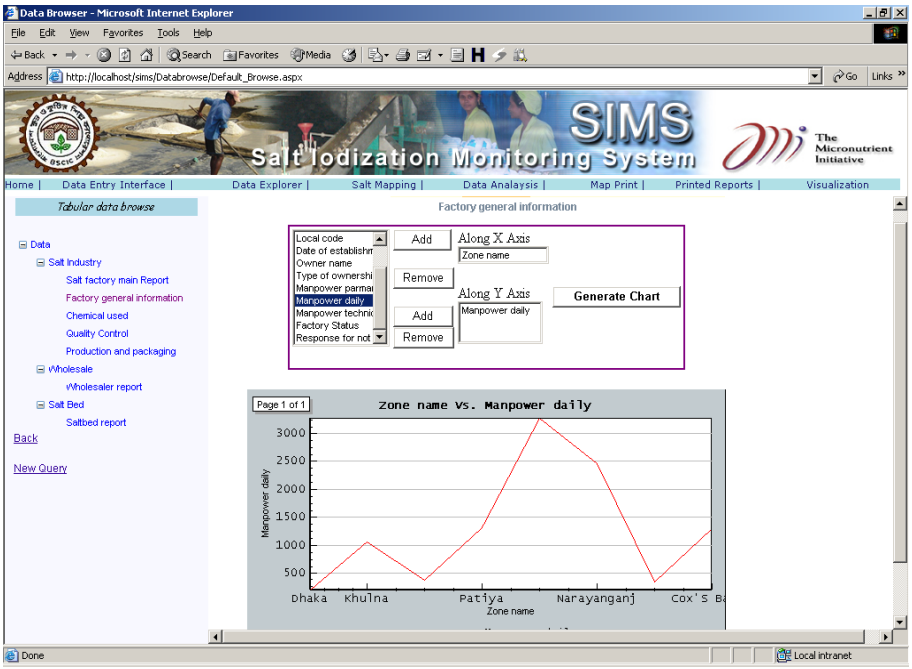


Figure 4.2: Chart Generation

4.3 Select Query

Select Quey tool used generate simple select query. User can generate any kind of selection query using GUI tools. Its have two section selection and criteria. User select field from the left side field list and add it to Query selection. User can select all fields by clicking Add all and can remove all fields by Clicking remove all. In criteria section user set criteria. There are collections of nice GUI tools which can be to set criteria.First User select field from left side field list. The the values of the corresponding field are added the value list and critera text box. Then user an operator and assign query value by selecting from value fied or simply writing in the criteria text area. User can add multiple criteria using and, or, not oprator. When user click Calculation button, Sql is generated and executed.

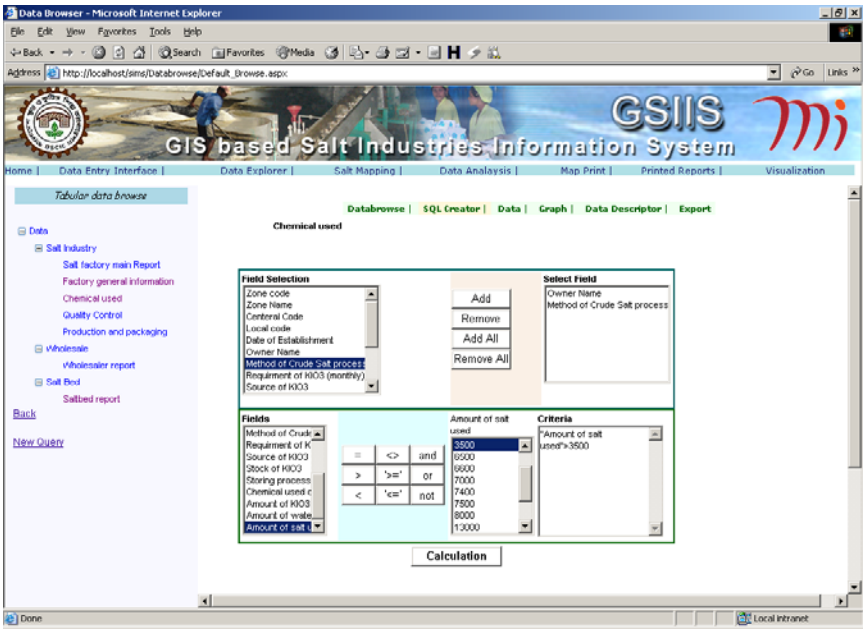
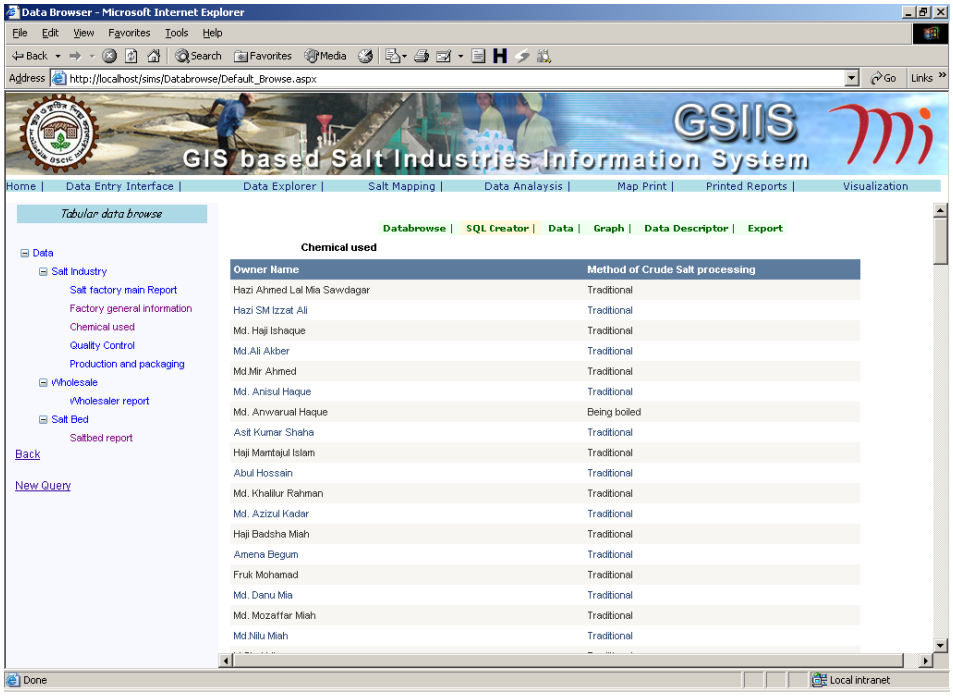


Figure 4.3: Select Query Interface

User can generate Graph using output data and can also export this data in different format.



Fiqure 4.4: Select Query Output

4.4 Exporting Data

User can export Data using Exporting tools. The system incorporates light but very useful data exporting tools. Data can be export in three different types i.e. Ms Excel format, Ms Word Format and plain HTML page. The user must have enough exporting privilege to export secure data.

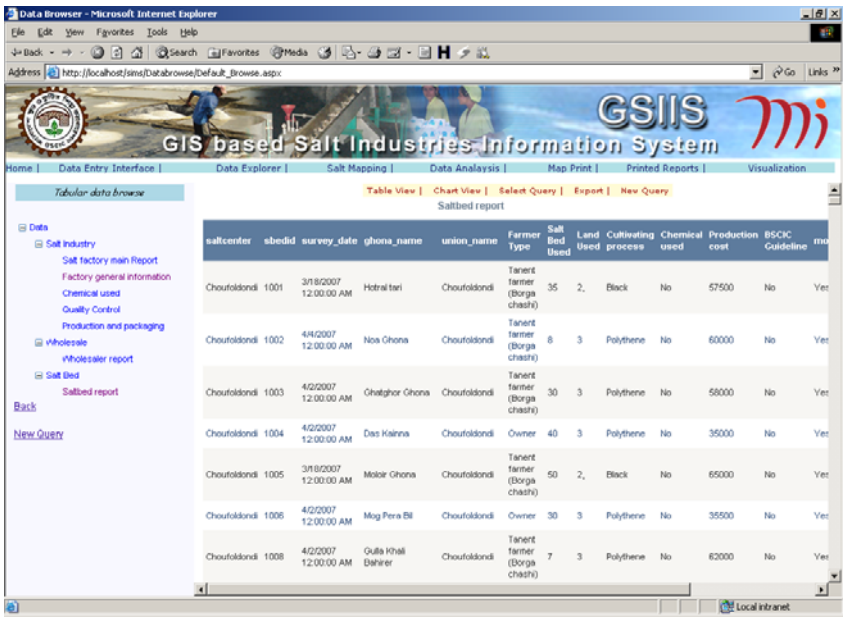

Data Browser - Microsoft Internet Explorer
GIS based Salt Industries Information System
GSIIS
Table View | Chart View | Select Query | Export | New Query
Saltbed report
saltcenter
sbedid
survey_date
ghona_name
union_name
Farmer Type
Salt Bed Used
Land Used
Cultivating process
Chemical used
Production cost
BSCIC Guideline
Choufoldondi 1001 3/18/2007 12:00:00 AM Hotnal tari Choufoldondi Tanent farmer (Borga chashi) 35 2, Black No 57500 No
Choufoldondi 1002 4/4/2007 12:00:00 AM Noa Ghona Choufoldondi Tanent farmer (Borga chashi) 8 3 Polythene No 60000 No
Choufoldondi 1003 4/2/2007 12:00:00 AM Ghatghor Ghona Choufoldondi Tanent farmer (Borga chashi) 30 3 Polythene No 58000 No
Choufoldondi 1004 4/2/2007 12:00:00 AM Das Kainna Choufoldondi Owner 40 3 Polythene No 35000 No
Choufoldondi 1005 3/18/2007 12:00:00 AM Moloir Ghona Choufoldondi Tanent farmer (Borga chashi) 50 2, Black No 65000 No
Choufoldondi 1006 4/2/2007 12:00:00 AM Mog Pera Bil Choufoldondi Owner 30 3 Polythene No 35500 No
Choufoldondi 1008 4/2/2007 12:00:00 AM Gulla Khali Bahirer Choufoldondi Tanent farmer (Borga chashi) 7 3 Polythene No 62000 No
Local intranet

Figure 4.5: Exporting

A new pop up will be opened. If user is unable to see the new window, make sure that the browser pop up blocker is disabled.

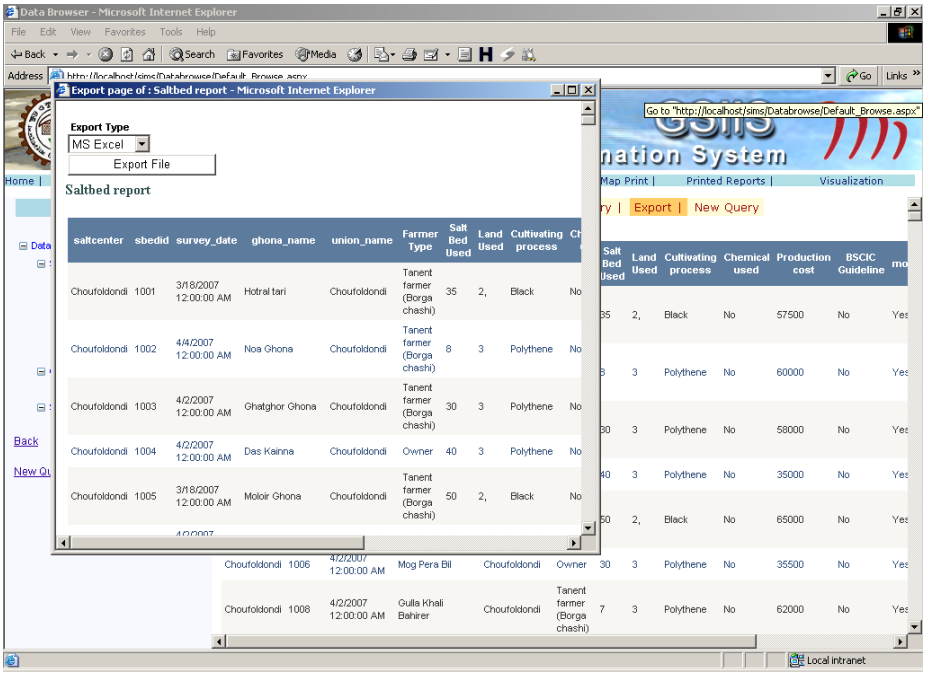

Data Browser - Microsoft Internet Explorer
Export page of : Saltbed report - Microsoft Internet Explorer
Export Type
MS Excel
Export File
Saltbed report
saltcenter sbedid survey_date ghona_name union_name Farmer Type Salt Bed Used Land Used Cultivating process
Choufoldondi 1001 3/18/2007 12:00:00 AM Hotral tari Choufoldondi Tanent farmer (Borga chashi) 35 2, Black No
Choufoldondi 1002 4/4/2007 12:00:00 AM Noa Ghona Choufoldondi Tanent farmer (Borga chashi) 8 3 Polythene No
Choufoldondi 1003 4/2/2007 12:00:00 AM Ghatghor Ghona Choufoldondi Tanent farmer (Borga chashi) 30 3 Polythene No
Choufoldondi 1004 4/2/2007 12:00:00 AM Das Kainna Choufoldondi Owner 40 3 Polythene No
Choufoldondi 1005 3/18/2007 12:00:00 AM Moloir Ghona Choufoldondi Tanent farmer (Borga chashi) 50 2, Black No
Choufoldondi 1006 4/2/2007 12:00:00 AM Mog Pera Bil Choufoldondi Owner 30 3 Polythene No 35500 No Yes
Choufoldondi 1008 4/2/2007 12:00:00 AM Gulla Khali Bahirer Choufoldondi Tanent farmer (Borga chashi) 7 3 Polythene No 62000 No Yes
Home
Back
Export
New Query
Map Print
Printed Reports
Visualization
Local intranet

Figure 4.5: Exporting Type

a. Select a output file format from the “Export Type”
b. Click Export File

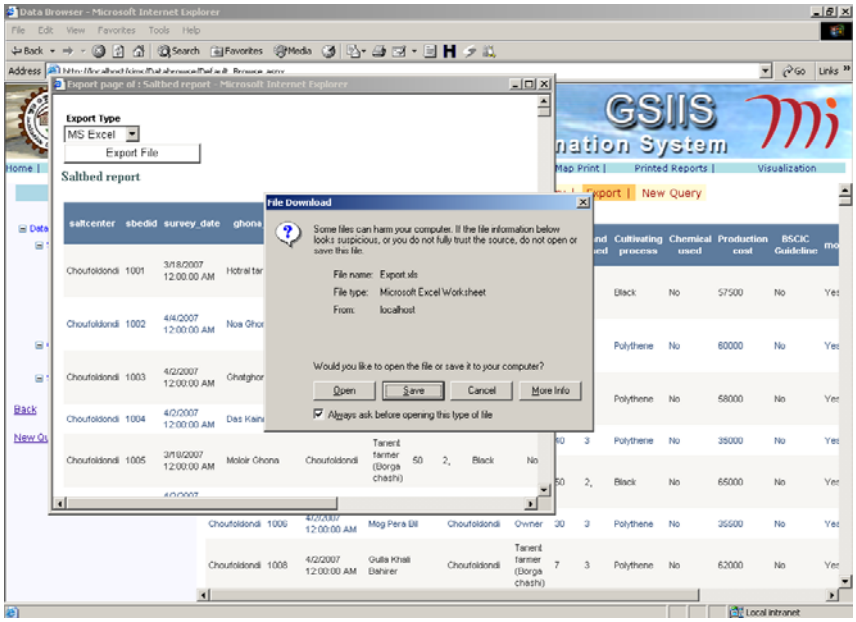

Data Browser - Microsoft Internet Explorer
Export page of : Saltbed report - Microsoft Internet Explorer
Export Type
MS Excel
Export File
Saltbed report
File Download
Some files can harm your computer. If the file information below looks suspicious, or you do not fully trust the source, do not open or save this file.
File name: Export.xls
File type: Microsoft Excel Worksheet
From: localhost
Would you like to open the file or save it to your computer?
Open
Save
Cancel
More Info
Always ask before opening this type of file
Home
Back
Export
New Query
Map Print
Printed Reports
Visualization
Local intranet

Figure 4.6: Exporting file saving

c. click Save

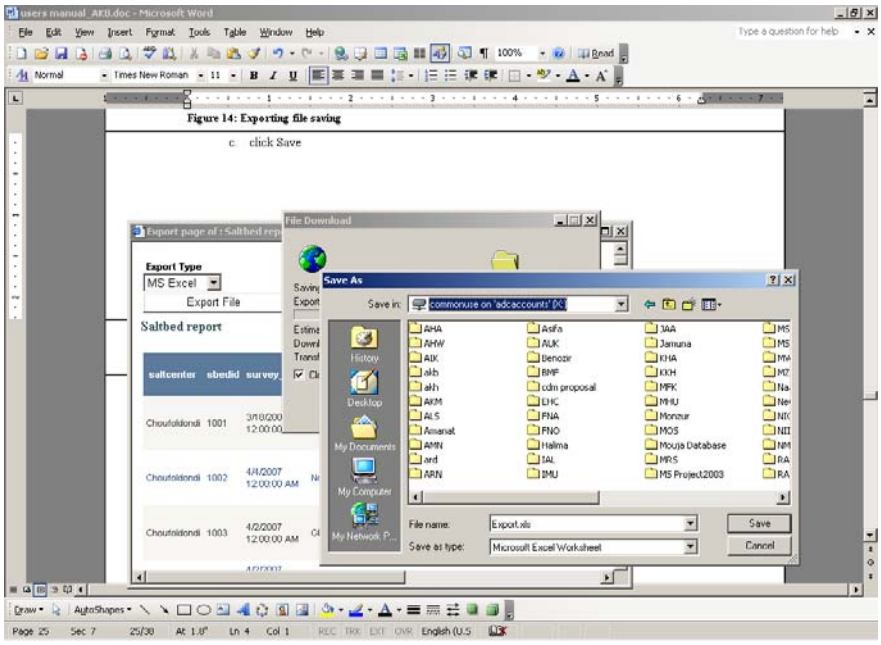


Figure 4.7: Save File to the Local disk

Notes: Some Web browsers are automatically block popup. In this case user may not view any popup menu. So in order to view popup User has to unblock automatic popup.

Internet Explorer:

Click Tools=>Popup blocker=>Turn off Popup blocker

Mozila Firefox:

a. Click Tools=>Option
b. Select content Tap
c. Unchecked Popup Blocker
d. Click Ok Button

Opera:

a. Click Tools=>preferences
b. Select General Tab(Default Selected)
c. Choose Open All POP-Ups from Pop-Ups Combo.
d. Click Ok Button

Chapter 5: Data Analysis

5.1 Advance Analysis

User can prepared data based on user custom query using this tools. User cans analysis only tabular data using these tools. User also can generate graph and data of the user query outcome.

We use yearly *Salt Bed Report* for demonstration the Advance Query Tools.

User should follows be

a. Navigate Data> Salt Bed> Salt Bed Report from Database Explorer.

b. Click Advance Analysis Button

c. Advance Analysis window will be displayed

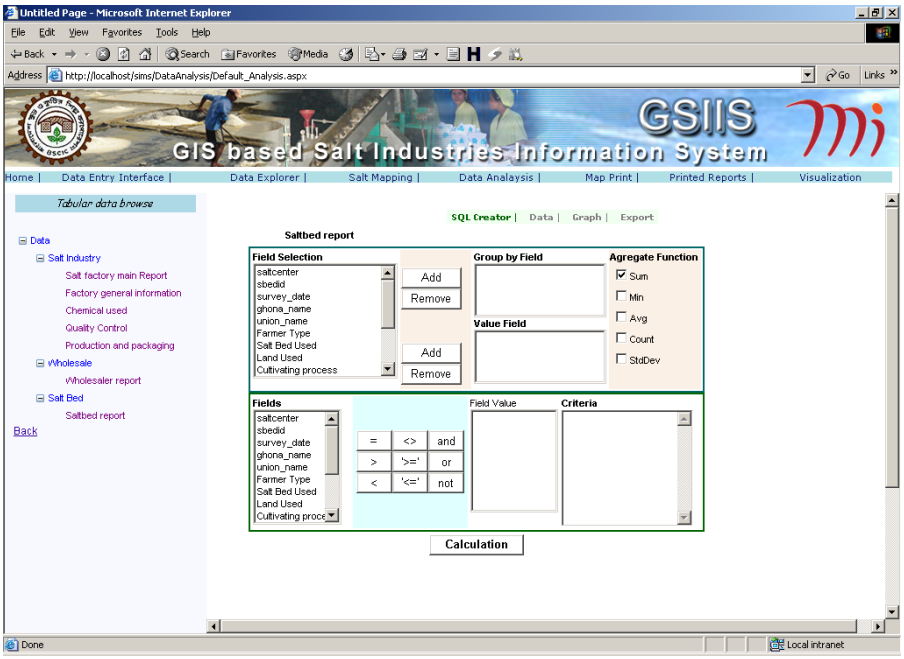


Figure 4.1: Advance Analysis Tools

This tool is generated standard SQL. Top interface is used to generate SQL Aggregate and bottom interface is used to developed SQL criteria selection. Aggregation function is applied to selected value field and make group by based on selected group by fields. Aggregation function applied only value field, User should be careful about the value field selection to avoid any kind of exception.

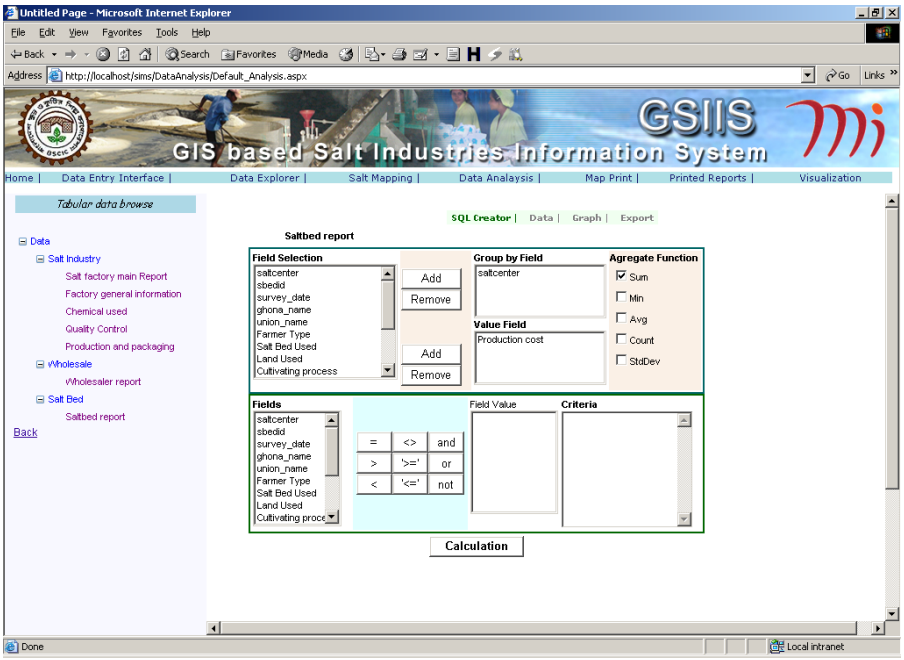


Figure 4.2: Aggregate with criteria

User can set any criteria using GUI tools. Fist user has to select a criteria field from the left field list. Then corresponding field values are populated in Field Value List. User can create custom expression by clicking provided operation Button. User also can edit the generated expression.

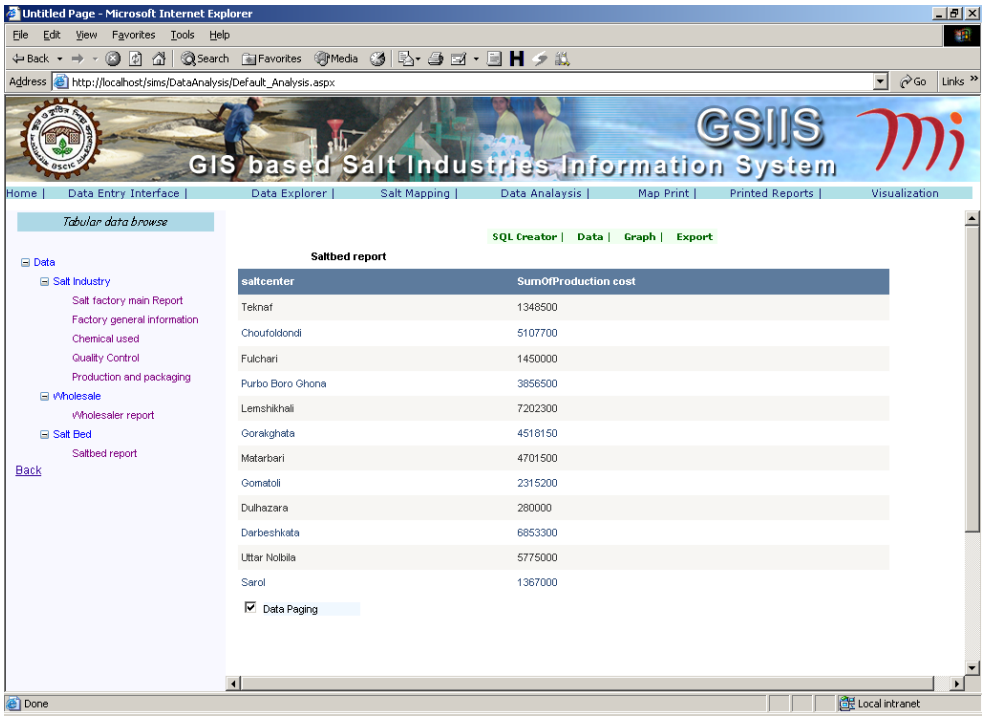


Figure 4.3: Query Output

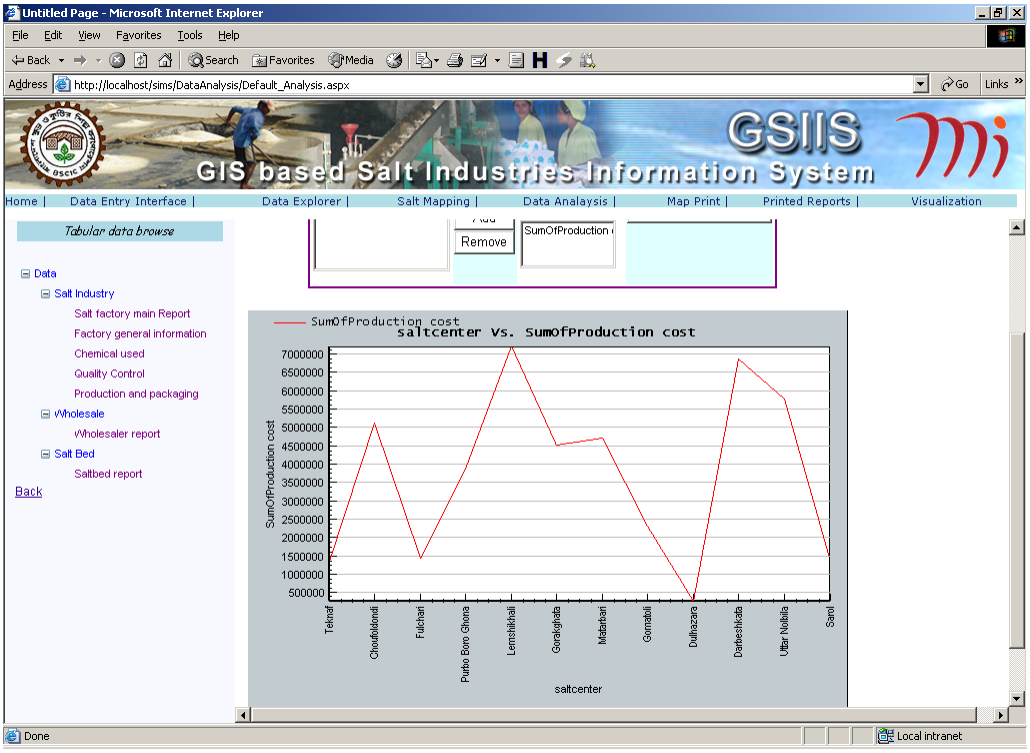


Figure 4.4: Creating Chart with resulted data

Chapter 6: Mapping

GSIIS incorporates some complete Map. GIS Map contains multiple layers. When user clicks on specific Map GSIIS system laod predefined layer in specific order. Layers and its order of the Map are predefined, user can only add new layer the Viewer.

6.1 Getting Map

User has to do following steps to get Mapping in the GSIIS

a. Click Mapping in the Main Menu

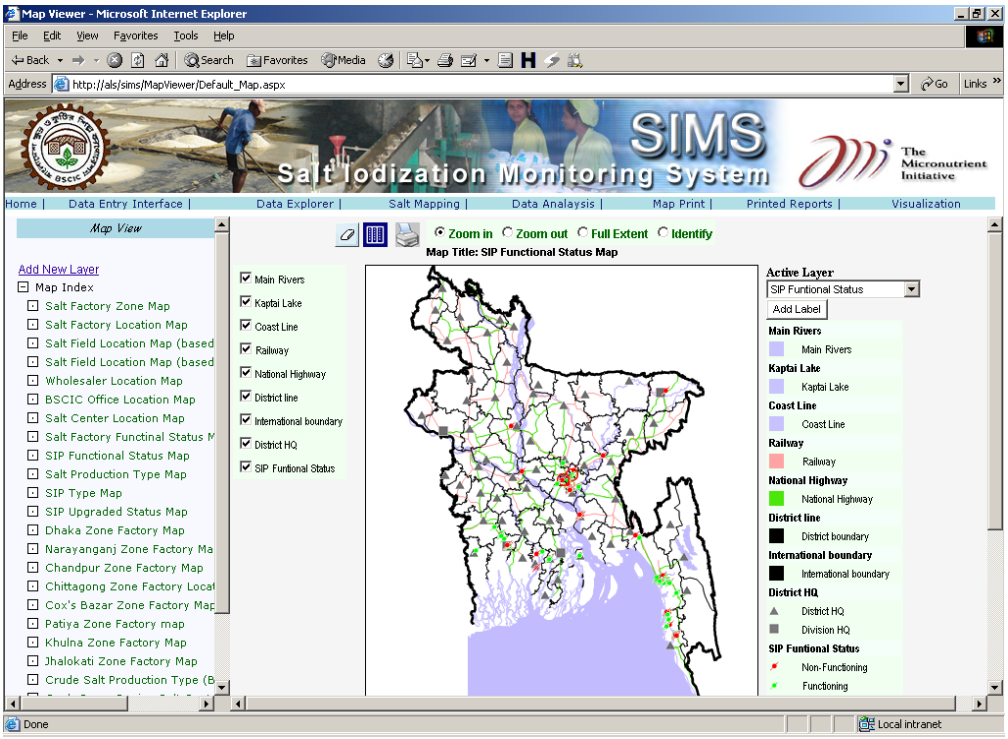
b. User will get the Mapping Window. Left navigator of the Mapping list.

Map Viewer - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://als/sims/MapViewer/Default_Map.aspx
SIMS
Salt Iodization Monitoring System
The Micronutrient Initiative
Home | Data Entry Interface | Data Explorer | Salt Mapping | Data Analaysis | Map Print | Printed Reports | Visualization
Map View
Add New Layer
Map Index
Salt Factory Zone Map
Salt Factory Location Map
Salt Field Location Map (based
Salt Field Location Map (based
Wholesaler Location Map
BSCIC Office Location Map
Salt Center Location Map
Salt Factory Functinal Status M
SIP Functional Status Map
Salt Production Type Map
SIP Type Map
SIP Upgraded Status Map
Dhaka Zone Factory Map
Narayanganj Zone Factory Ma
Chandpur Zone Factory Map
Chittagong Zone Factory Local
Cox's Bazar Zone Factory Map
Patiya Zone Factory map
Khulna Zone Factory Map
Jhalokati Zone Factory Map
Crude Salt Production Type (B
CEGIS Center for Environmental and Geographic Information Services
www.cegisbd.com
Local intranet

Fiqure 5.1: Mapping Interface

6.2 Display Map

User has to click any map from the left navigator to display the Map. Map viewer Load multiple predefined layer at time. User will get comple map combining set of layer with corresponding legents.



Fiqure 5.2: Display Map in the Map Viewer

6.3 Adding New Layer

User can add new layer the any Map. User should follow the below steps to add new layer.

a. Click Add New Layer

b. User will get layer list

c. Click desire Layer

d. New layer will be added to Map viewer as top most layer.

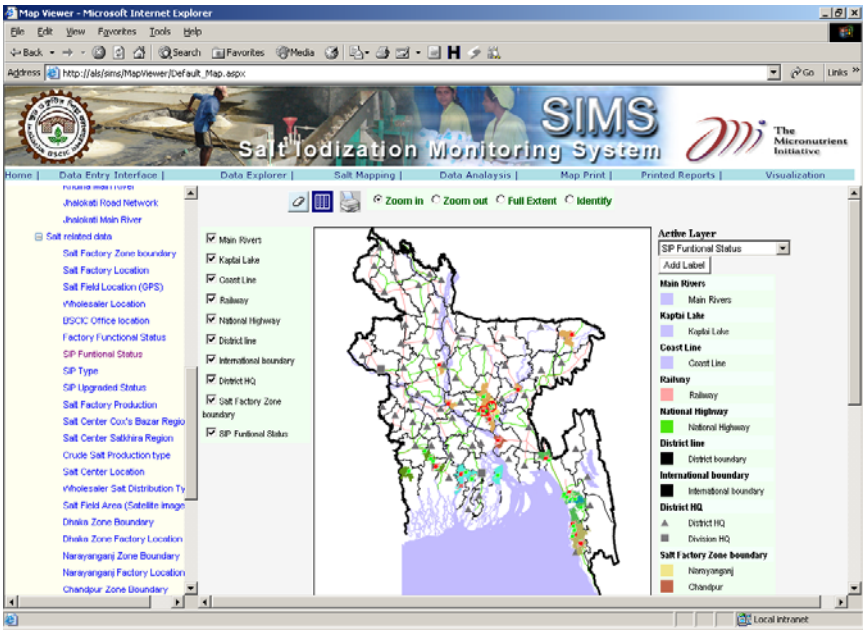


Figure 5.3: Add new layer to the Map Viewer

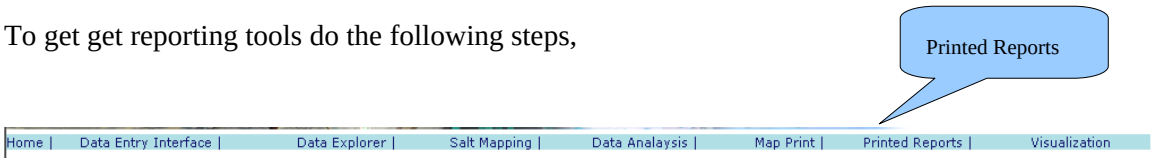
Chapter 7

Documents and reports

Documents and reports module generate report on the based on predefined query. System use web based crystal report tool which is very nice tools to print, exporting, and presenting reports.

7.1 Get reporting Tools

To get get reporting tools do the following steps,


Printed Reports
Home | Data Entry Interface | Data Explorer | Salt Mapping | Data Analaysis | Map Print | Printed Reports | Visualization

a. click ***Printed Report*** in the main menu

b. user will get report window

c. left side list box content different reports

Data Browser - Microsoft Internet Explorer
GSIIS
GIS based Salt Industries Information System
Home | Data Entry Interface | Data Explorer | Salt Mapping | Data Analaysis | Map Print | Printed Reports | Visualization
Reports in printed format
Factory Summery Report
Chona Summery Report
Wholesaler Summery Report
Factory working person
Status of SP Parts
Packaging data
Show Reports
Back
CEGIS Center for Environmental and Geographic Information Services

Figure 7.1: Reporting window

7.2 Using tools

Selecting any report from left side navigator click show reports Button. User will get the generated report from right side of the window.

7.2.1 Printing

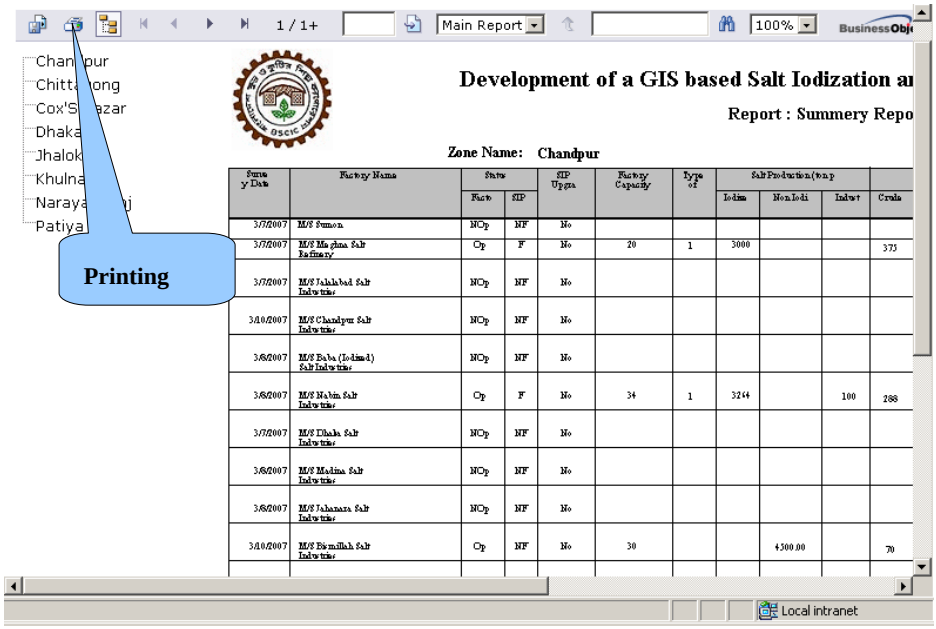


Figure 7.2: Printing

Click print icon of the report tools bar. Then printing dialog box will appear.

7.2.2 Find/search

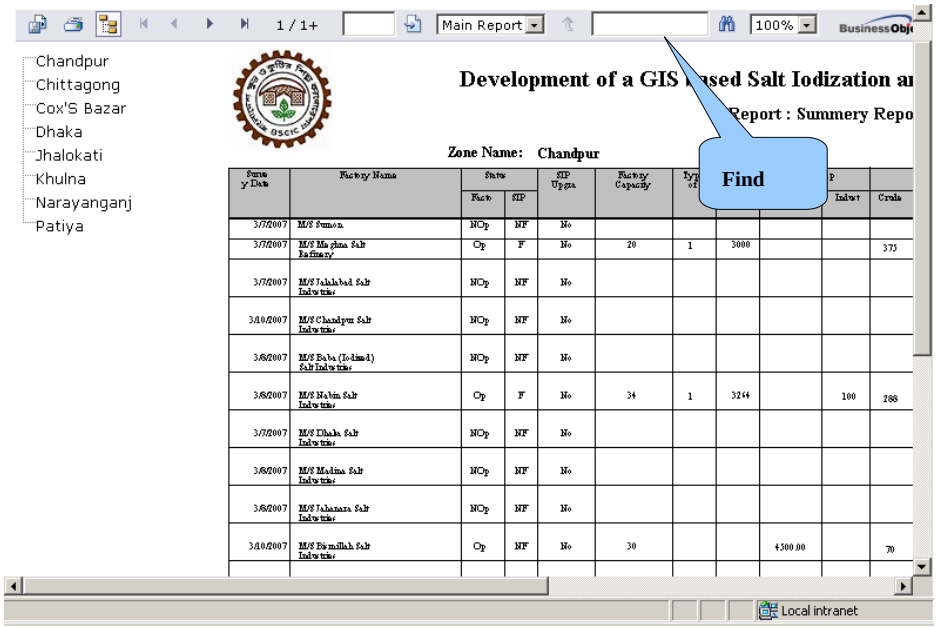
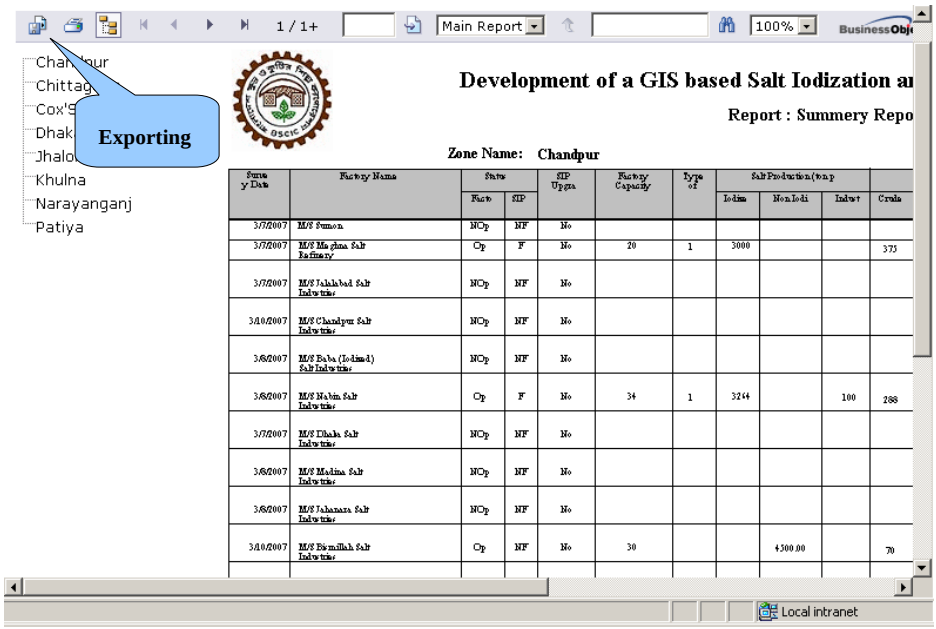


Figure 7.3: Search in the report

Write find keyword in the find input box and press find icon

7.2.3 Exporting

Click export Icon in the report tool bar. Exporting window will be appears. Now user has to select file format from the format list. User can print custom nuber of page by selecting pages option.



Fiquer 7.4: Exporting Report

Notes: Web based reporting is little bit slower. So after clicking Show report system my take long time to view the report out put.

Chapter 8: Visualization

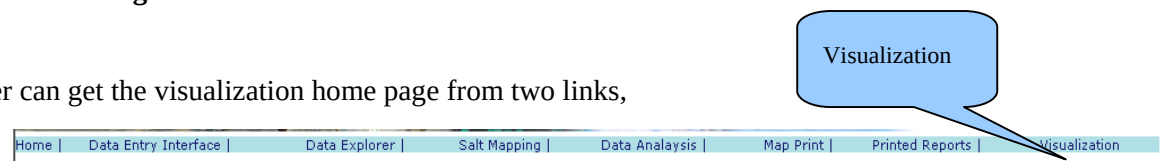
User will get a of lots image of Salt Bed, Salt Industry, Wholesaler, and Industrial Packing. Images are categories in four Main Groups, these are

a. Salt Bed: Image of Various Salt Bed(Ghear)
b. Salt Industry : Images of Salt Industry
c. Wholesaler: Images of Salt Wholesaler all over the country
d. Industrial Packing: Cover page images of the Industrial Salt

Fig 8.1: Visualization

8.1 Getting Visualization Home

User can get the visualization home page from two links,


Visualization
Home | Data Entry Interface | Data Explorer | Salt Mapping | Data Analaysis | Map Print | Printed Reports | Visualization

a. Main Menu
b. Left Minor Links of the Home Page

8.2 Salt Bed Images

Users have to done following steps to view the Salt Bed Image.

a. Select Salt Center Location from Salt center Selection List
b. Select Upazilla from Upazilla List
c. Select Union from Union List
d. Then Ghuna Name list of corresponding Union will be appeared. Click desire Ghuna Name
e. Image of corresponding ghuna will be viewed in the right panel.

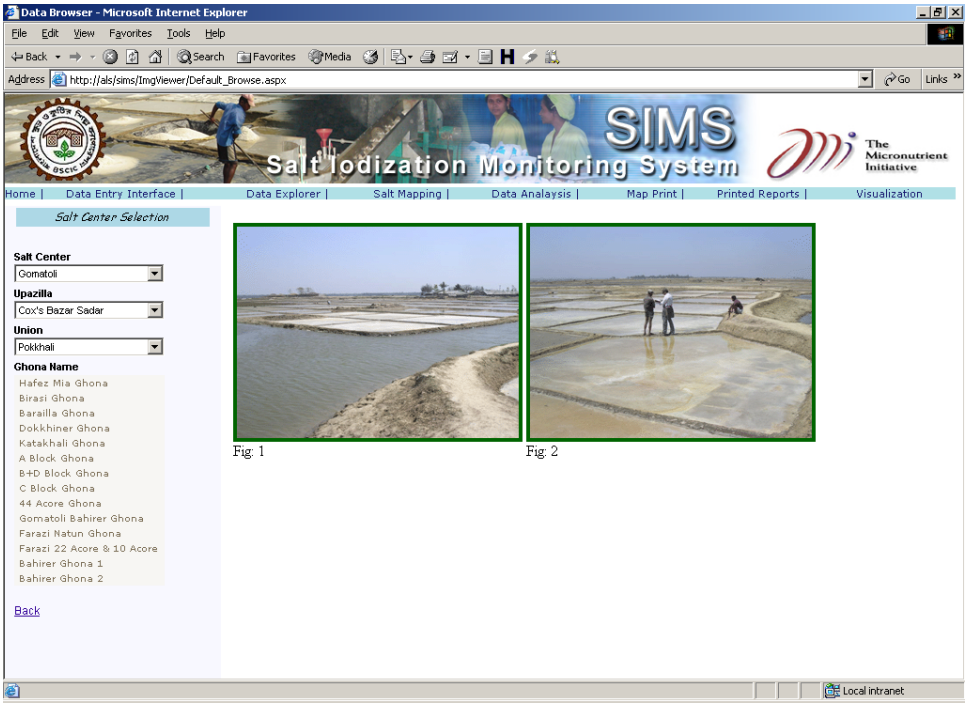


Fig 8.2: Salt Bed

8.3 Industrial Images

Industrial Images are organized by Zone wise. Users have to select Zone name form zone list, then Industry Name list of corresponding zone are displayed. User need to click desire Industry name to view the images.

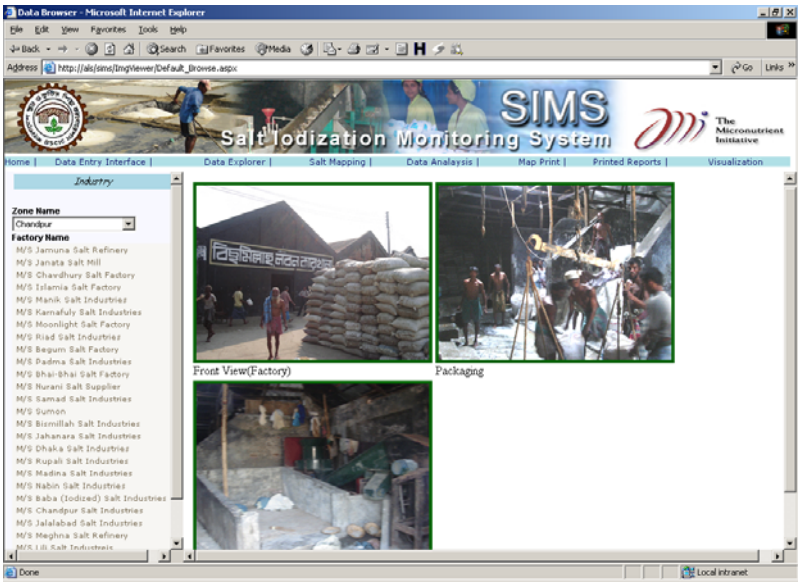

Data Browser - Microsoft Internet Explorer
SIMS
Salt Iodization Monitoring System
The Micronutrient Initiative
Home | Data Entry Interface | Data Explorer | Salt Mapping | Data Analaysis | Map Print | Printed Reports | Visualization
Industry
Zone Name
Chandpur
Factory Name
Front View(Factory)
Packaging

Fig 8.3: Industrial Image

8.4 Wholesaler Images

User should do the following to view the Wholesaler Images

a. Select District Name from District list
b. Wholesaler list of corresponding district will be displayed
c. Click desire wholesaler name, Images will be viewed in the right panel.

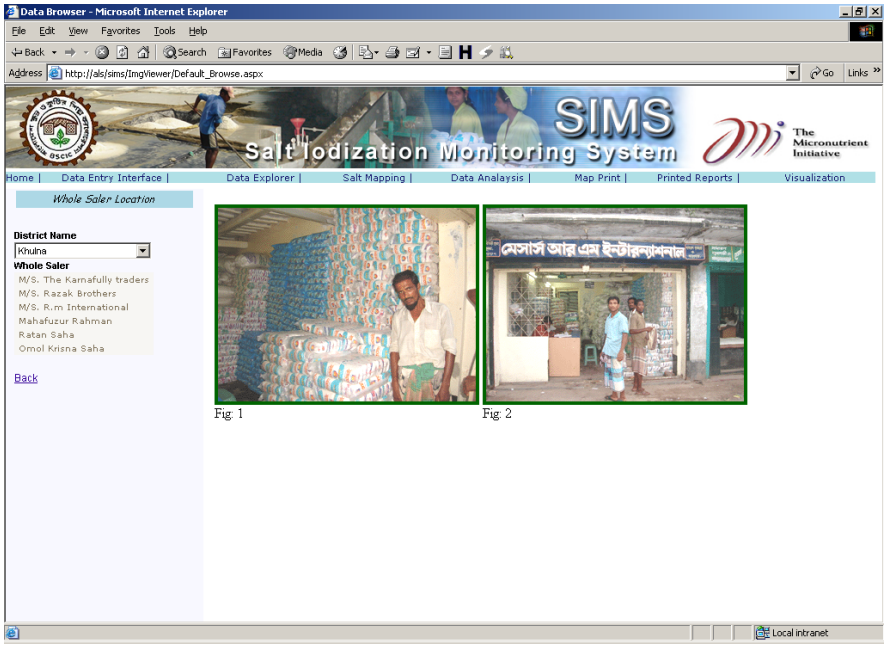


Fig 8.4: Wholesaler Image

8.5 Industrial Packing

User should follow the bellows steps,

a. Select Zone Name from Zone List.
b. Corresponding Industrial Salt name will be viewed.
c. Click desire Industrial Salt name, Images of that salt will be displayed in the right panel.

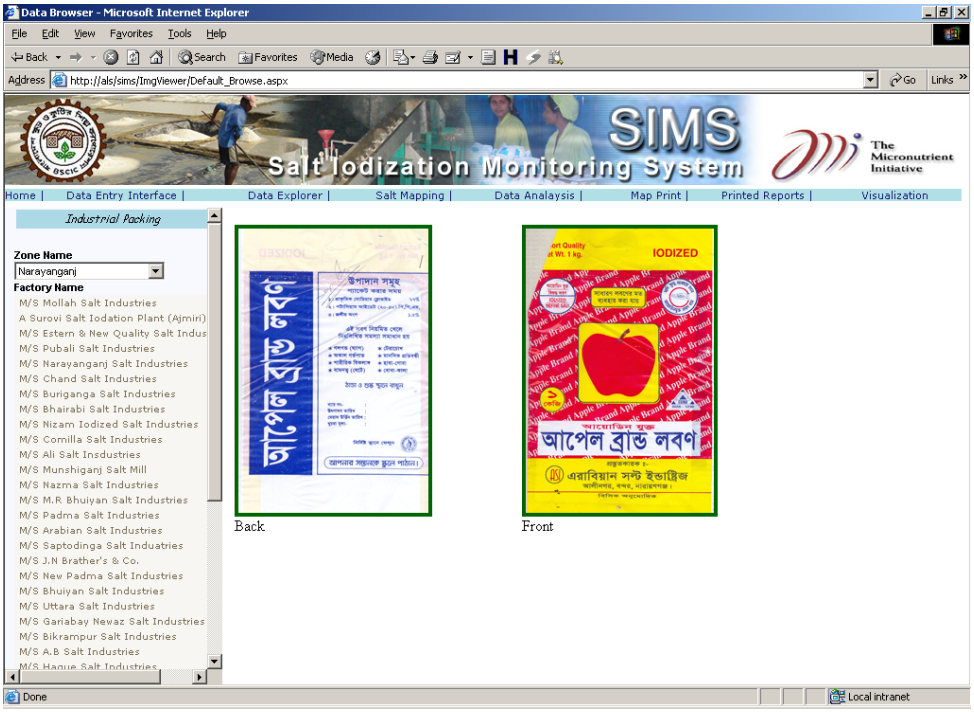

Data Browser - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Address http://als/sims/ImgViewer/Default_Browse.aspx
SIMS
Salt Iodization Monitoring System
The Micronutrient Initiative
Home | Data Entry Interface | Data Explorer | Salt Mapping | Data Analaysis | Map Print | Printed Reports | Visualization
Industrial Packing
Zone Name
Narayanganj
Factory Name
M/S Mollah Salt Industries
A Surovi Salt Iodation Plant (Ajmiri)
M/S Estern & New Quality Salt Indus
M/S Pubali Salt Industries
M/S Narayanganj Salt Industries
M/S Chand Salt Industries
M/S Buriganga Salt Industries
M/S Bhairabi Salt Industries
M/S Nizam Iodized Salt Industries
M/S Comilla Salt Industries
M/S Ali Salt Insdustries
M/S Munshiganj Salt Mill
M/S Nazma Salt Industries
M/S M.R Bhuiyan Salt Industries
M/S Padma Salt Industries
M/S Arabian Salt Industries
M/S Saptodinga Salt Induatries
M/S J.N Brather's & Co.
M/S New Padma Salt Industries
M/S Bhuiyan Salt Industries
M/S Uttara Salt Industries
M/S Gariabay Newaz Salt Industries
M/S Bikrampur Salt Industries
M/S A.B Salt Industries
M/S Hague Salt Industries
IODIZED
আপেল ব্রান্ড লবণ
Back
Front
Done
Local intranet

Fig 8.5: Industrial Packing image

Chapter 9: Map Print

User can print Image format map easily. Maps are formatted in A4 size paper. Map Images are not high resolution, so the qualities of the printed map may not be high quality Map.

User should follow bellows steps to print Map,

a. Expand Map Index Tree(Default Expanded)
b. Click Desire Map from Left Navigator

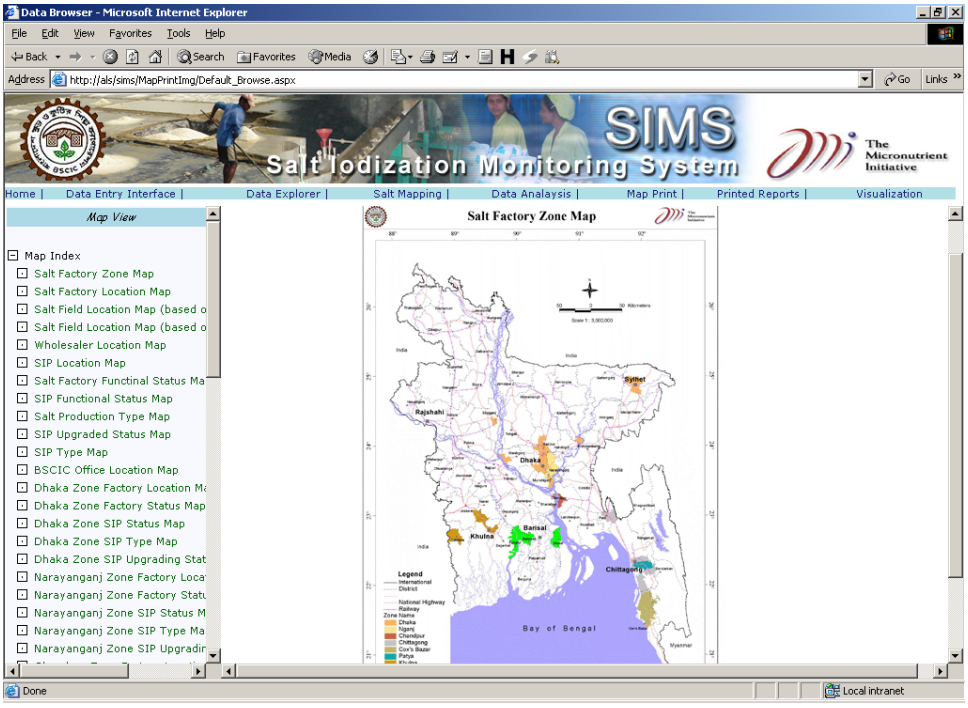


Fig 8.1: Print Map

c. Map Image will be displayed in the right panel.
d. Click Print Map Button
e. New window will be appeared with printer friendly version of the Map

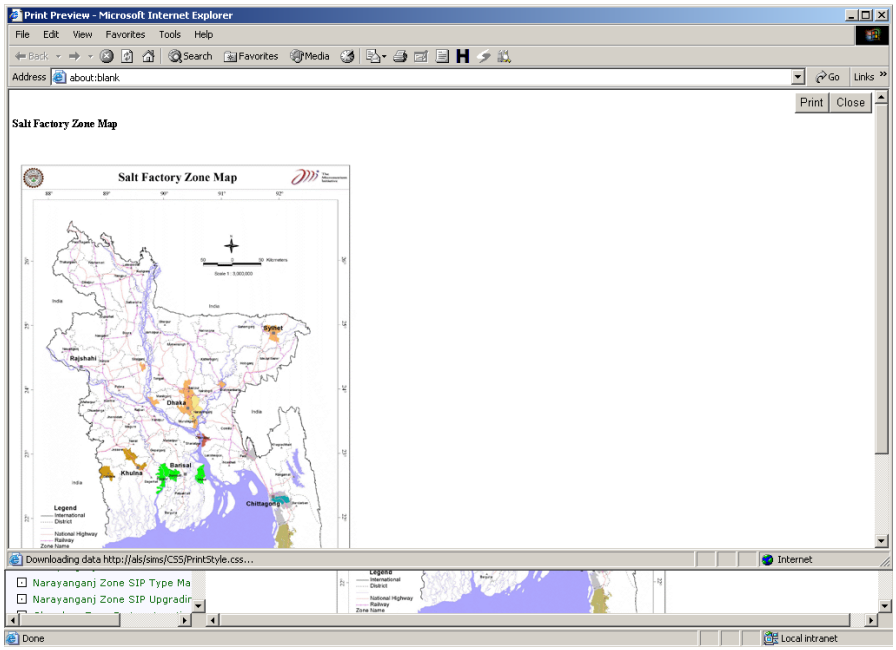


Fig 8.2: Print Preview

f. Click Print Button
g. Printing dialog box will be viewed. Select the printer and commit the printing procedures.

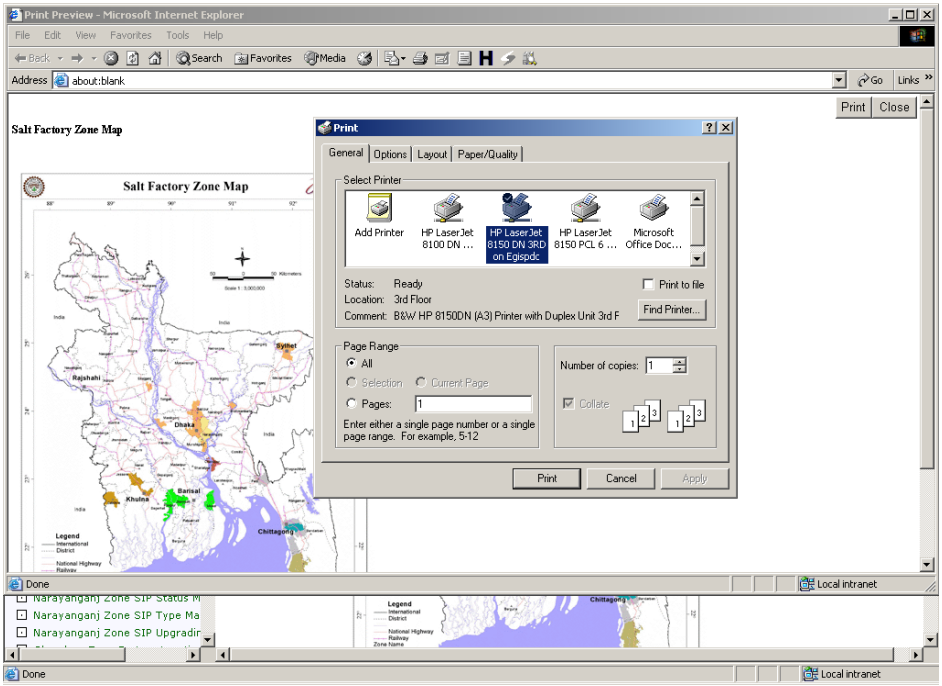


Fig 8.3: Printing Dialog box